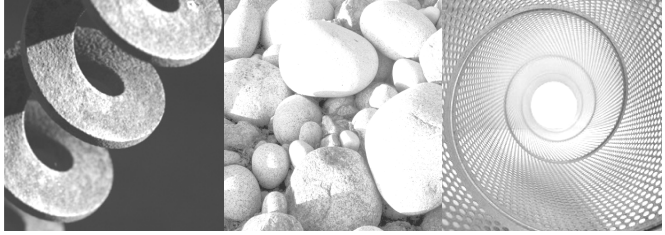


GEI Consultants

Consulting
Engineers and
Scientists

MassDEP RTN 3-23246

Phase V Status Report No. 16 and Remedial Monitoring Report No. 31

50 Tufts Street, Somerville, Massachusetts

Submitted to:
UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887

Submitted by:
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801
781-721-4000

August 2, 2019

Project 04516-3

Joseph D. Roman, LSP
Senior Project Manager

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

Table of Contents

Acronyms and Abbreviations vi

Executive Summary viii

1. Introduction 1
- 1.1 Contact Information 1
- 1.2 Background 2
- 1.3 Purpose and Scope 4
- 1.4 Public Involvement (310 CMR 40.1400) 5

2. Data Collection 6
- 2.1 Groundwater Sampling 6
- 2.2 Comparison of PCE Concentrations to GW-2 Standards 6
  - 2.2.1 Groundwater Plume Stability 6
- 2.3 Soil Vapor Sampling 7
- 2.4 Indoor Air Sampling 7
- 2.5 Indoor Air Sampling – Checklists and Methods 8
- 2.6 Meteorological Conditions 8

3. Capuano Center 9
- 3.1 Background 9
- 3.2 Remedial Objectives 9
- 3.3 Inspection and Monitoring 10
- 3.4 System Modifications 10
- 3.5 Performance Efficiency and Effectiveness 10
- 3.6 Management of Waste Materials 11
- 3.7 Future Phase V Activities 11
  - 3.7.1 Impact of 2014 MCP Amendments for AEPMMs 11
  - 3.7.2 Regulatory Closure 12

4. Residential and Commercial Properties 13
- 4.1 EPMM Installation 13
  - 4.1.1 163 Glen Street 13
  - 4.1.2 103 Washington Street 13
  - 4.1.3 105 Washington Street 14
  - 4.1.4 31 Tufts Street 14
  - 4.1.5 Remedial Objectives 15
- 4.2 Option 1 EPMMs 15
  - 4.2.1 Operation and Monitoring 16
  - 4.2.2 AEPMM Shutdown Testing at 13 Knowlton Street 17
  - 4.2.3 Impact of 2014 MCP Amendments for AEPMMs 17

4.2.4 Efficiency and Effectiveness 18
4.2.5 System Maintenance and Modifications 18
4.2.6 Management of Waste Materials 19
4.3 Option 2 and 3 EPMMs 19
4.3.1 163 Glen Street 19
4.3.2 Operation and Monitoring 20
4.3.3 Efficiency and Effectiveness 21
4.3.4 System Maintenance and Modifications 21
4.3.5 Management of Waste Materials 21
4.4 Activity and Use Limitations 21
4.5 Permanent Solution Statements 21
4.5.1 Permanent Solution without Conditions 22
4.5.2 Permanent Solution with Conditions 23
4.6 Future Phase V Activities 23
4.6.1 EPMM Operation and Monitoring 23
4.6.2 EPMM Modifications 23
4.6.3 EPMM Closure Sampling 24
4.6.4 Installation of New EPMMs 24
4.6.5 AULs and Permanent Solutions 24

5. 60 Tufts Street 25

5.1 Background 25
5.2 Remedial Objectives 25
5.3 Inspection and Monitoring 25
5.4 Performance Efficiency and Effectiveness 26
5.4.1 AEPMM Shutdown Testing 26
5.5 Management of Waste Materials 27
5.6 System Modifications 28
5.7 Future Phase V Activities 28
5.7.1 EPMM Closure Sampling 28
5.7.2 Impact of 2014 MCP Amendments for AEPMMs 29
5.7.3 Regulatory Closure 29

6. 50 Tufts Street Property 30

6.1 Background 30
6.2 Remedial Objectives 30
6.3 Inspection and Monitoring 30
6.4 Performance Efficiency and Effectiveness 31
6.5 Management of Waste Materials 32
6.6 System Modifications 32
6.7 Future Phase V Activities 32
6.7.1 Telemetry for AEPMMs 32

7. Monitored Natural Attenuation 34

7.1 MNA Program Objectives 34
7.2 MNA Activities 34

8. Remedial Monitoring Report No. 31 36

9. References 37

Tables

2-1 Summary of Groundwater Sampling Activities
2-2 Chemical Testing Results – GEI Groundwater Sampling
2-3 Chemical Testing Results – Kleinfelder Groundwater Sampling
2-4 Chemical Testing Results – 13 Knowlton Street Post-EPMM Installation Sub-Slab Soil Vapor
2-5 Chemical Testing Results – 163 Glen Street Post-EPMM Installation Sub-Slab Soil Vapor
2-6 Chemical Testing Results – 60 Tufts Street Post-EPMM Installation Sub-Slab Soil Vapor
2-7 Chemical Testing Results – 13 Knowlton Street Post-EPMM Installation Indoor Air
2-8 Chemical Testing Results – 163 Glen Street Post-EPMM Installation Indoor Air
2-9 Chemical Testing Results – 60 Tufts Street Post-EPMM Installation Indoor Air – Common Areas
2-10 Chemical Testing Results – 60 Tufts Street Post-EPMM Installation Indoor Air – Unit 1
2-11 Chemical Testing Results – 60 Tufts Street Post-EPMM Installation Indoor Air – Unit 4
2-12 Summary of Meteorological Data During Air Sampling Events
3-1 Summary of SSDS Monitoring Events – Capuano Center
3-2 Chemical Testing Results – Capuano Center Indoor and Outdoor Air
4-1 Exposure Pathway Mitigation Measure (EPMM) Status
4-2 Indoor Air Sampling and EPMM Monitoring – December 16, 2017 through June 15, 2018
5-1 Summary of SSDS Monitoring Events – 60 Tufts Street
6-1 Summary of SSDS Monitoring Events – 50 Tufts Street
7-1 Groundwater Elevations

Figures

1-1 Site Location Map
1-2 Disposal Site Map and Site Boundary
2-1 Monitoring Well Locations
2-2 Sub-Slab Soil Vapor and Indoor Air Sampling
4-1 EPMM Installation Progress
4-2 EPMM Mitigation Flow Chart
4-3 Permanent Solution Status
6-1 Combined Influent VOC Concentrations and Cumulative VOC Removal

Appendices

A. MassDEP Transmittal Forms (BWSC-108, BWSC-108As, and BWSC-108Bs)
B. Property Owner Notification Letters
C. Laboratory Testing Reports
D. Pre-Sampling Checklists, Air Sampling Checklists, and Photo Logs
E. Field Monitoring Forms and Inspection Logs
F. EPMM Inspection Forms

MEG/CMM/JDR/ISG:ht
B:\Private\04516\15.0 Report Original\15.130 Phase V SR No 16 and RMR No 31\UniFirst_50 Tufts - Phase V SR No 16 and RMR No 31 8-2-19.docx

Acronyms and Abbreviations

µg/L	micrograms per liter
AUL	Activity and Use Limitation
CEP	Critical Exposure Pathway
COPC	Compounds of Potential Concern
CRA	Comprehensive Remedial Action
CSA	Comprehensive Site Assessment
DNAPL	dense non-aqueous phase liquid
EPA	U.S. Environmental Protection Agency
EPMM	Exposure Pathway Mitigation Measure
FIR	Final Inspection Report
GEI	GEI Consultants, Inc.
GLX	Green Line Extension
IH	Imminent Hazard
IRA	Immediate Response Action
lbs	pounds
LQG	Large Quantity Generator
LSP	Licensed Site Professional
MassDEP	Massachusetts Department of Environmental Protection
MBTA	Massachusetts Bay Transportation Authority
MCP	Massachusetts Contingency Plan
MNA	Monitored Natural Attenuation
NAPL	non-aqueous phase liquid
NSR	No Significant Risk
OHM	oil and/or hazardous material
OMM	Operation, Maintenance, and Monitoring
PCE	tetrachloroethylene (perchloroethylene)
PSS	Permanent Solution Statement
RAM	Release Abatement Measure
RAO	Response Action Outcome

RAP	Remedial Action Plan
RIP	Remedy Implementation Plan
RMR	Remedial Monitoring Report
ROS	Remedy Operations Status
RTN	Release Tracking Number
SHE	Substantial Hazard Evaluation
SSDS	sub-slab depressurization system
SVE	soil vapor extraction
TCA	1,1,1-trichloroethane
TCE	trichloroethylene
VOC	volatile organic compound

Executive Summary

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) prepared this Phase V Status Report No. 16 and Remedial Monitoring Report (RMR) No. 31 for the site located at 50 Tufts Street in Somerville, Massachusetts (the Site). The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. The Site includes the 50 Tufts Street property (the Property), other properties in the neighborhoods east and immediately north, south, and west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) located at 150 Glen Street in Somerville, Massachusetts. This report covers the period from December 16, 2018 through June 15, 2019.

Background

From approximately 1955 to 2002, the Property was used for storage and distribution of industrial chemicals, laundry supplies, and dry-cleaning supplies. Chemicals stored at, and transported to and from the Property, included chlorinated volatile organic compounds (VOCs). These chlorinated VOCs – particularly tetrachloroethylene (also called perchloroethylene [PCE]), trichloroethylene (TCE), and 1,1,1-trichloroethane (TCA) – have been detected in soil, soil vapor, indoor air, and groundwater at the Property and are therefore the compounds of potential concern (COPCs) for the Site. In some buildings within the Site, chlorinated VOCs have been detected in indoor air samples.

The detection of chlorinated VOCs in indoor air at some buildings required the implementation of an Immediate Response Action (IRA). The "Immediate Response Action Plan" associated with RTN 3-23246 was submitted to MassDEP on January 9, 2006. The Site was classified as Tier IC (Permit No. W085813). The "Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP)" (Phase II/III) for the Site was submitted to MassDEP on July 14, 2008. The "Phase IV Remedy Implementation Plan" (Phase IV RIP) was submitted to MassDEP on August 10, 2009. The "Immediate Response Action Completion Report and Remedial Monitoring Report No. 11" (IRAC Report) was submitted to MassDEP on November 13, 2009, and the "Immediate Response Action Completion Report Amendment," (IRAC Report Amendment) was submitted to MassDEP on April 1, 2011. The "Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report" (Phase IV FIR/Phase V ROS) was submitted to MassDEP on August 4, 2011.

Based on amendments to the Massachusetts Contingency Plan (MCP) effective June 20, 2014, the Site does not meet the inclusionary criteria for Tier I (310 CMR 40.0520[2]).
GEI reclassified the Site as Tier II on August 1, 2014.

The remedial action alternative (RAA) selected by the Phase III evaluation included:

1. Installing Exposure Pathway Mitigation Measures (EPMMs) to the extent feasible (e.g. vapor barrier and venting system, or sub-slab depressurization systems [SSDSs]), and recording Activity and Use Limitations (AULs) as appropriate, for residences where the soil vapor migration pathway to indoor air has been confirmed, and installing EPMMs in occupied commercial buildings to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of No Significant Risk (NSR).
2. Continuing to operate the soil vapor extraction (SVE) system at the Property to remove COPCs from the vadose zone.
3. Conducting a Site-wide Monitored Natural Attenuation (MNA) program to evaluate overburden and bedrock groundwater plume concentrations over time to assess the rate of natural attenuation processes, and to confirm that groundwater concentrations of chlorinated VOCs are generally stable or decreasing.

The Phase IV FIR/Phase V ROS documented that construction and implementation of the Comprehensive Response Action (CRA) has been completed; and additional activities, such as operation and monitoring of active remedial systems, will be conducted under Phase V ROS.

In accordance with the MCP, particularly 310 CMR 40.0892, this Phase V Status Report No. 16 and RMR No. 31 includes the following information regarding the remedial actions being conducted at the Site:

- A description of the type and frequency of operation, maintenance, and/or monitoring (OMM) activities.
- A description of any significant modifications made to the OMM activities since the last reporting period.
- An evaluation of the performance of the remedial action during the reporting period, including whether the remedial action is achieving remedial goals specified in the Phase IV RIP as described in 310 CMR 40.0874(3), and a description of any conditions or problems noted during the reporting period that are, or may be, affecting the performance of the remedial action.
- A description of the measures taken to correct any conditions or problems that may have been encountered during the reporting period.

Following is a summary of OMM activities conducted at the Site to date:

Capuano Center

An SSDS is installed in the east wing of the Capuano Center. In addition, GEI sealed certain slab/wall joints at the Capuano Center to mitigate a potential preferred migration pathway. GEI conducted 24 rounds of indoor air sampling after the SSDS was installed in February 2007. The soil vapor migration pathway to indoor air has been eliminated and a condition of NSR has been achieved for occupants of the Capuano Center. Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP, and has achieved the remedial objectives.

Between April 22 and April 24, 2015, GEI observed modifications to the SSDS including the installation of three radon fans on dedicated discharge pipes for each collection header extending above the roofline, and removal of the blower and associated equipment and shed housing. Remote telemetry sensors were also installed on the system. GEI performed post-modification indoor air sampling on May 23 and 24, 2015. VOCs were not detected above laboratory reporting limits during the indoor air sampling, indicating that the system as modified continues to meet the remedial objectives.

GEI will continue to inspect and maintain the system, and continue operation and monitoring under ROS.

Residential and Commercial Properties

As part of the IRA, while Site conditions were still under investigation, GEI took timely action to evaluate and implement measures to eliminate or mitigate Critical Exposure Pathways (CEPs) to the extent feasible. The feasibility of such measures was determined by physical conditions, including the suitability of each property to installation of active or passive vapor controls, and by amenability of property owners to provide legal access. Mitigative measures were initially implemented as IRA activities. The Phase II/Phase III assessment and evaluation of RAAs included response actions to address CEPs as part of the recommended CRA. With the submittal of the Phase IV RIP, the IRA addressing CEPs was closed with an IRAC Report and an IRAC Report Amendment, in accordance with the MCP (310 CMR 40.0427). Following the submittal of the IRAC Report and IRAC Report Amendment, all further response actions were continued under Phase IV. Construction and implementation of the CRA has been completed; additional activities, such as operation and monitoring of active remedial systems, will be conducted under Phase V ROS or, in the future, as active EPMMs (AEPMMs) implemented as Partial Permanent Solutions Statements (PSSs) with Conditions.

Following is a summary of activities conducted and results obtained with respect to EPMMs through June 15, 2019:

- EPMMs have been installed in 22 residential and commercial properties, not including the EPMMs installed at 50 Tufts Street, 60 Tufts Street, and the Capuano Center. One EPMM (at 103 Washington Street) was removed in anticipation of redevelopment when the building was vacant pending demolition. The results of post-EPMM installation indoor air sampling indicate that the remaining 21 EPMMs have achieved the remedial objectives. The commercial property at 163 Glen Street is being redeveloped into residential space by Somerville Community Corporation. Based on groundwater concentrations in the vicinity of 163 Glen Street that slightly exceed Method 1 GW-2 standards, the developer incorporated an EPMM into the project, and EPMM effectiveness testing has been completed. The results of soil vapor samples collected at 163 Glen Street in April 2019 were less than the applicable MassDEP Residential Soil Vapor Screening Values, similar to results previously collected at the property, indicating that the vapor intrusion pathway is unlikely to be of concern under current conditions even in the absence of the EPMM. Based on these results the EPMM installed at the property is not required to mitigate vapors from entering the indoor air at the building, and therefore an AUL is not required.
- The property at 103 Washington Street is being redeveloped into commercial and residential space. Prior to demolition of the building, GEI observed the removal of the SSDS fans and remote telemetry system at the building on May 31, 2017. The building at the property was demolished in March 2019. GEI is communicating with the new property owner, Hodan Property, regarding the installation of a sub-slab vapor mitigation system into the new building proposed at the property.
- The property at 105 Washington Street is being redeveloped into commercial and residential space. The property is being redeveloped by HayCon, Inc. The building was demolished between March and June 2019. The original developer was HayCon, Inc; however, according to HayCon's architect the property is being sold to a new development company, and the construction schedule is not known at this time. Additional information on property ownership and development activities will be included in the next status report.
- The property at 31 Tufts Street is being redeveloped into residential apartment units by E-3 Development. The property is currently a paved parking lot, and there are no buildings. Additional information on development activities will be included in the next status report.

- ARCADIS prepared an Updated 2015 Method 3 Risk Characterization, which incorporated updated soil, groundwater, and indoor air data sets, and included updated MassDEP toxicity information, particularly for PCE and TCE. Based on the Updated 2015 Method 3 Risk Characterization, and based on the performance of individual EPMMs, a condition of NSR exists for current and future building occupants at each property within the Site.
- A Permanent Solution with Conditions Statement will be submitted for each property with an Option 1, 2 or 3 EPMM where the EPMM has achieved the remedial objectives, an AUL has been recorded for the property, and sufficient post-EPMM indoor air sampling has been conducted. The filing of a Partial PSS with Conditions for an individual property documents the achievement of regulatory closure under the MCP. Therefore, the Phase V provisions will not apply to properties for which a Partial PSS with Conditions has been submitted.

60 Tufts Street

An SSDS has been installed in the 17-unit condominium building at 60 Tufts Street. The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences nearly the entire floor slab area. Indoor air testing results indicate that a condition of NSR has been achieved for building occupants at 60 Tufts Street. Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP, and has achieved the remedial objectives.

Remote telemetry was installed on the system on July 24, 2015. GEI will continue to inspect and maintain the system. GEI monitors parameters and sub-slab conditions for the system (e.g., flow rate, vacuum) at the headers on a quarterly basis. GEI will continue operation and monitoring of the SSDS at 60 Tufts Street under ROS.

Based on pre-EPMM indoor air testing at 60 Tufts Street, and changes to the toxicological characteristics for PCE, the AEPMM may not be required to maintain a condition of NSR. GEI has communicated with the owners and occupants of 60 Tufts Street, who are amenable to EPMM closure indoor air testing. In accordance with MassDEP's 2016 VI Guidance, GEI has initiated a closure indoor air testing program at 60 Tufts Street.

50 Tufts Street Property

An SSDS and an SVE system have been installed at the Property. The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS covers most of the building slab area. The building is currently occupied by several tenants. Based on indoor air testing results collected since the combined system has been in operation, a condition of NSR has been achieved for the building at the Property for full-time commercial workers.

Accordingly, it is GEI's opinion that the system was constructed and is operating in accordance with the design standards provided in the Phase IV RIP, and has achieved the remedial objectives. GEI will continue operation and monitoring of the combined SSDS/SVE system at 50 Tufts Street under ROS.

Remote telemetry was installed on the 50 Tufts Street system on April 14, 2015. The telemetry system at 50 Tufts Street consists of a wireless remote monitoring hub that will receive telemetry notification from the other AEPMMs at the Site. GEI monitors parameters and sub-slab conditions for the system (e.g., flow rate, vacuum, off-gas treatment efficiency) quarterly, and monitors for off-gas treatment efficiency monthly. GEI observed a contractor (Integrasense of Wilmington, Massachusetts) install system software and hardware upgrades in spring and summer 2019.

Future Activities and Impact of 2014 MCP Amendments for AEPMMs

The MCP amendments effective June 20, 2014 included new requirements for AEPMMs implemented to meet the conditions for ROS (310 CMR 40.1026), including an operating regime for the active system and remote monitoring and automatic notification in the event of system failure. Operating regimes for active systems at the Site were included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, and included an OMM plan for the active systems.

Telemetry had previously been installed at 50 Tufts Street, 60 Tufts Street, and the Capuano Center to provide shutdown notification to GEI. The MCP requires that remote telemetry provide the owner and operator of the building and MassDEP notification upon failure of the system. Remote telemetry has been installed at each property with an AEPMM including the Capuano Center, except for 9 Knowlton Street. The owner of 9 Knowlton Street has been unresponsive to telemetry access request letters, telephone calls, and property visits. Therefore, it is currently infeasible to install telemetry at this property.

MassDEP has indicated that the upcoming MCP changes may include a revision to the telemetry reporting requirements. GEI has retained a new telemetry contractor (Integrasense of Wilmington, MA) to evaluate any necessary system modifications, and to support system maintenance, as required.

50 Tufts Street Contaminant Mass Removal

The combined SSDS/SVE system installed at the Property serves to protect indoor air quality and to remove source material from the vadose zone below and around the building. Monitoring data from both the SSDS and SVE components through June 11, 2019 show that approximately 9,017 lbs of VOCs have been removed from the vadose zone at the Property.

GEI will continue operation and monitoring of the combined SSDS/SVE system at 50 Tufts Street under ROS.

GLX Project

The Massachusetts Bay Transit Authority (MBTA), through its contractor GLX-Constructors, has recommenced work on the project to extend existing MBTA Green Line service to Union Square in Somerville and beyond to College Avenue in Medford. This Green Line Extension (GLX) Project includes significant infrastructure improvements near the Site, including a new pump station, reconstruction of the bridge passing over Washington Street, new train tracks within the MBTA right-of-way, a new train station, and utility improvements. GEI has not been provided with timely information concerning project plans, field work, or MCP submittals associated with the Project. A review of available regulatory submittals on the MassDEP website, indicates the following:

- On January 23, 2018, MBTA filed a Release Notification Form (RNF) for concentrations of PCE detected in the wet well within the pump station located at 132 Washington Street. MassDEP issued RTN 3-34742. On April 25, 2019, MassDEP issued MBTA a Notice of Noncompliance for failure to submit a Permanent Solution Statement, Tier Classification Submittal, or Downgradient Property Status (DPS) Submittal within one year of the RNF. In June 2019, Weston and Sampson, on behalf of MBTA, filed a DPS Submittal attributing conditions reported in the RNF to the Site.

- On July 18, 2019, TRC, on behalf of GLX Constructors, filed a Release Abatement Measure (RAM) Status Report No. 7, under the Special Project Designation (SPD) RTN 3-30620. According to TRC, approximately 5,440 cubic yards of soil were excavated from within the Site boundaries as part of GLX Project activities. TRC stated that management of the soil would now be governed by a different RAM Plan submitted under RTN 3-34742. The report also stated that CVOC impacted groundwater would be managed under a Utility RAM (URAM) under RTN 3-35528.

- On July 11, 2019, TRC, on behalf of the GLX Constructors, filed a RAM Plan under RTN 3-34742 for management of CVOC impacted soil encountered during GLX Project activities within Site boundaries. According to TRC, up to 14,000 cubic yards of CVOC impacted will be managed under this separate RAM. TRC conducted in-situ soil sampling along the MBTA right-of-way behind the 50 Tufts Street building. Concentrations of PCE were detected up to 14 ppm. ”Some excess soil from the Site had been removed and stockpiled at MBTA-owned property,” according to TRC, “before the potential for listed hazardous CVOCs had been identified.” The location of this property is not stated.

Monitored Natural Attenuation

GEI conducts groundwater sampling once per year at 20 monitoring wells at the Site to confirm that the overburden and bedrock groundwater plumes remain stable. On a semi-annual basis, GEI has been monitoring concentration fluctuations in MW122, MW112A, MW121D, and MW118D. Groundwater concentrations measured at these wells have been within a range of fluctuation that is consistent with continuing plume stability, particularly when considered in context with prior groundwater results from all monitoring wells. Overall, results from the 20 monitoring wells sampled as part of the MNA program indicate that the groundwater plumes are stable.

To facilitate construction of the new Washington Street Pump Station in 2016, located on the MBTA's property on the south side of Washington Street, the MBTA pumped groundwater to dewater the excavation. According to the MBTA, PCE concentrations in the dewatering effluent increased as pumping continued. The MBTA's pumping therefore induced changes in the distribution of PCE in shallow groundwater at the southern boundary of the Site. Based on the results of sampling from the wells monitored as part of the MNA program, these changes at the southern boundary have not affected the overall stability of the plumes.

GEI will perform additional groundwater sampling in fall 2019.

Remedial Monitoring Report No. 31

Remedial Monitoring Report No. 31, documenting OMM activities of active remedial systems at the Site, is presented in the BWSC-108A and 108B Transmittal Forms in Appendix A.

1. Introduction

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) prepared this Phase V Status Report No. 16 and Remedial Monitoring Report (RMR) No. 31 for the site located at 50 Tufts Street in Somerville, Massachusetts (the Site; Fig. 1-1). The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. The Site includes the 50 Tufts Street property (the Property), other properties in the neighborhoods east and immediately north, south, and west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) located at 150 Glen Street in Somerville, Massachusetts (Fig. 1-2). This report covers the period from December 16, 2018 through June 15, 2019.

1.1 Contact Information

Person responsible for submittal of the Phase V Status Report:
Tim Cosgrave
Director, EHS
UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887
978-658-8888

Licensed Site Professional (LSP):
Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801
781-721-4012
LSP License No. 9719

Person who will own, operate, and/or maintain the selected Remedial Action Alternative (RAA):
Tim Cosgrave
Director, EHS
UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887
978-658-8888

1.2 Background

In 2002, a release of chlorinated volatile organic compounds (VOCs) (particularly tetrachloroethylene [also known as perchloroethylene (PCE)], trichloroethylene [TCE], and 1,1,1-trichloroethane [TCA]) to soil and groundwater at the Property was reported to the MassDEP and assigned RTN 3-23246. Three other RTNs were subsequently issued for the Site: 3-24358, 3-24376, and 3-26114. For tracking and reporting purposes, these RTNs have been consolidated under RTN 3-23246.

The detection of chlorinated VOCs in indoor air at some buildings within the Site required the implementation of an Immediate Response Action (IRA). The "Immediate Response Action Plan" associated with RTN 3-23246 was submitted to MassDEP on January 9, 2006. The Site was classified as Tier IC (Permit No. W085813). The "Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP)" (Phase II/III) for the Site was submitted to MassDEP on July 14, 2008. The "Phase IV Remedy Implementation Plan" (Phase IV RIP) was submitted to MassDEP on August 10, 2009. The "Immediate Response Action Completion Report and Remedial Monitoring Report No. 11" (IRAC Report) was submitted to MassDEP on November 13, 2009, and the "Immediate Response Action Completion Report Amendment" (IRAC Report Amendment) was submitted to MassDEP on April 1, 2011. The "Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report," (Phase IV FIR/Phase V ROS) was submitted to MassDEP on August 4, 2011.

Based on amendments to the Massachusetts Contingency Plan (MCP) effective June 20, 2014, the Site does not meet the inclusionary criteria for Tier I (310 CMR 40.0520[2]). GEI reclassified the Site as Tier II on August 1, 2014.

The Phase II/Phase III identified the following areas of the Site requiring investigation and mitigation:

- The Property;
- The Capuano Center;
- 60 Tufts Street, a 17-unit condominium building north of the Property; and
- Certain residences and commercial buildings located near the Property.

The RAA selected by the Phase III was:

1. Installing Exposure Pathway Mitigation Measures (EPMMs) to the extent feasible (e.g. vapor barrier and venting system, or sub-slab depressurization systems [SSDSs]), and recording Activity and Use Limitations (AULs) as appropriate, for residences where the soil vapor migration pathway to indoor air has been confirmed,

and installing EPMMs in occupied commercial buildings to reduce chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR).

2. Continuing to operate the soil vapor extraction (SVE) system at the Property to remove compounds of potential concern (COPCs) from the vadose zone.
3. Conducting a Site-wide Monitored Natural Attenuation (MNA) program to evaluate overburden and bedrock groundwater plume concentrations over time to assess the rate of natural attenuation processes, and to confirm that groundwater concentrations of chlorinated VOCs are generally stable or decreasing.

As part of the IRA, while Site conditions were still under investigation, GEI took timely action to evaluate and implement measures to eliminate or mitigate Critical Exposure Pathways (CEPs) to the extent feasible. The feasibility of such measures was determined by physical conditions, including the suitability of each property to installation of active or passive vapor controls, and by amenability of property owners to provide legal access. Mitigative measures were initially implemented as IRA activities. The Phase II/Phase III assessment and evaluation of RAAs included response actions to address CEPs as part of the recommended Comprehensive Response Actions (CRAs). With the submittal of the Phase IV RIP, the IRA addressing CEPs was closed with an IRAC Report and IRAC Report Amendment, in accordance with the MCP, particularly 310 CMR 40.0427. Following the submittal of the IRAC Report and IRAC Report Amendment, all further response actions were continued under Phase IV and Phase V.

The CRA for the Site includes continued active operation and maintenance of the existing commercial and residential EPMMs, and the SSDS and SVE system at the Property, to achieve a Permanent Solution pursuant to 310 CMR 40.0890. It is GEI's opinion that the Site meets the requirements for ROS in accordance with the MCP (310 CMR 40.0893[2]):

- The Phase III RAP was completed on July 14, 2008. The Phase IV RIP was completed on August 10, 2009.
- A final inspection has been performed and confirmed that the CRA has been constructed and implemented in accordance with the Phase IV RIP and is meeting projected design standards to achieve a Permanent Solution.
- Each source of oil and/or hazardous material (OHM) is controlled at the Site. Non-aqueous phase liquid (NAPL) is not visibly present at the Site. Any dense non-aqueous phase liquid (DNAPL) that may be present is not migrating and exists in a stable configuration. The Phase III demonstrated that it is not feasible to eliminate DNAPL at the Site. The dissolved-phase groundwater plumes and vapor plumes are stable and are not causing an increase in concentrations of

VOCs in groundwater, soil, soil vapor, or indoor air. There are no unpermitted releases of OHM at the Site.

- Any substantial hazards have been eliminated as documented in the Substantial Hazard Evaluation (SHE) completed by ARCADIS U.S., Inc. (ARCADIS) of Chelmsford, Massachusetts in August 2011. ARCADIS also completed a Site-wide Method 3 Risk Characterization in August 2015, and based on the performance of individual EPMMs, a condition of NSR exists for current and future building occupants at each property within the Site.
- GEI has identified the longest duration of a shutdown of each active EPMM (AEPMM) that would be consistent with levels of exposure that do not pose an Imminent Hazard (IH) and poses a condition of NSR.

Construction and implementation of the CRA have been completed; additional activities, such as operation and monitoring of active remedial systems, or installation of new EPMMs, will be conducted under Phase V. The Site will operate in ROS until a Permanent Solution is achieved, except for any portions of the Site that may be closed under Partial Permanent Solution Statements (PSSs) with Conditions. Operating the SSDS and SVE systems, together with MNA, will ultimately achieve a Permanent Solution for the Site.

GEI will continue to conduct annual operation, maintenance, and/or monitoring (OMM) activities for installed EPMMs where sufficient indoor air sampling has been conducted, and not repeat indoor air testing, to confirm continued system effectiveness. GEI also conducts groundwater sampling and analysis as part of the MNA program.

1.3 Purpose and Scope

The Site entered Phase V with the submittal of the Phase IV FIR/Phase V ROS on August 4, 2011. In accordance with the MCP (310 CMR 40.0892), this Phase V Status Report No. 16 and RMR No. 31 includes the following information regarding the remedial actions being conducted at the Site:

- A description of the type and frequency of OMM activities.
- A description of any significant modifications made to the OMM activities since the last reporting period.
- An evaluation of the performance of the remedial action during the reporting period, including whether the remedial action is achieving remedial goals specified in the Phase IV RIP as described in 310 CMR 40.0874(3), and a description of any conditions or problems noted during the reporting period that are or may be affecting the performance of the remedial action.

- A description of the measures taken to correct any conditions or problems that may have been encountered during the reporting period.

This report covers the period from December 16, 2018 through June 15, 2019. Details of the engineering concepts, design criteria, construction plans, and specifications were previously provided to MassDEP as part of the Phase IV RIP, IRA Status Reports, RMRs, and IRA Plan Modifications and are not revisited in this report.

1.4 Public Involvement (310 CMR 40.1400)

UniFirst and GEI conducted a series of community meetings to inform property owners, residents, and City of Somerville (the City) officials about the Site. GEI will provide copies of this Phase V Status Report No. 16 and RMR No. 31 to the local public document repositories that were established for the Site at the Somerville Central Public Library and at the City of Somerville Clerk's Office.

This report was submitted through eDEP (Transaction No. 1124628) on August 2, 2019. A copy of the eDEP Transmittal Form (BWSC-108) is provided in Appendix A.

Copies of property owner notification letters, including notice of sampling letters, chemical testing results letters, and other miscellaneous correspondence sent during the reporting period, are in Appendix B.

2. Data Collection

2.1 Groundwater Sampling

GEI conducted annual groundwater sampling at 19 monitoring wells in April 2019. Monitoring well MW104 was included in prior annual groundwater sampling events. MW104 has been destroyed, however, apparently as part of Green Line Extension (GLX) Project activities. A summary of all GEI groundwater sampling activities at the Site, including dates of sampling during this reporting period, is in Table 2-1. The groundwater testing results are summarized in Table 2-2, along with groundwater data from previous investigations. Groundwater sampling conducted between 2012 and 2014 by Kleinfelder, on behalf of the Massachusetts Bay Transit Authority (MBTA), as part of the GLX Project is summarized in Table 2-3. Monitoring well locations and the monitoring wells sampled by GEI during this reporting period are shown in Fig. 2-1. The laboratory data reports associated with the April 2019 groundwater testing are in Appendix C.

2.2 Comparison of PCE Concentrations to GW-2 Standards

Fig. 1-2 presents the disposal site boundary, based on laboratory analytical results for environmental samples collected by GEI and others. Fig. 1-2 also delineates the areas in which concentrations of PCE in shallow groundwater (i.e., 15 feet or less) exceed current and pending Method 1 GW-2 standards, based on Site-wide groundwater sampling results through April 2019.

The current Method 1 GW-2 standard for PCE in shallow groundwater is 50 micrograms per liter (µg/L). MassDEP has indicated that it intends to revise the Method 1 GW-2 standard for PCE to 20 µg/L, and to promulgate the revised GW-2 standard in MCP amendments to be issued later. As demonstrated in Fig. 1-2, the extent of PCE in shallow groundwater exceeding this likely updated Method 1 GW-2 standard is not significantly different from the extent of PCE in shallow groundwater exceeding the current GW-2 standard (50 µg/L). Extensive sub-slab soil vapor and indoor air testing has been performed at the properties that are within the area where PCE in shallow groundwater exceeds 20 µg/L, except for 159 Glen Street, where the owner has been unresponsive to access request letters and property visits seeking access to conduct sampling. We do not anticipate that additional investigation will be required if the Method 1 GW-2 standard for PCE is reduced to 20 µg/L.

2.2.1 Groundwater Plume Stability

Based on historic groundwater sampling conducted since 2006, the nature and extent of groundwater contamination at the Site has been well-characterized. In addition, groundwater

analytical results are incorporated into the MNA program to support the plume stability monitoring and natural attenuation evaluation, as discussed in Section 7. Based on an analysis of the Mann-Kendall statistical trend test results, which incorporates the additional groundwater testing data, the PCE, TCE, and TCA groundwater plumes continue to be stable or are slightly decreasing at the Site.

2.3 Soil Vapor Sampling

During this reporting period, GEI collected sub-soil vapor samples from three residential properties (13 Knowlton Street, 163 Glen Street, and 60 Tufts Street). The soil vapor samples were submitted to Alpha Analytical, Inc. (Alpha) of Westborough, Massachusetts for laboratory analysis by U.S. Environmental Protection Agency (EPA) Method TO-15 with the following modified list of analytes:

- 1,1-Dichloroethane
- 1,1-Dichloroethylene (1,1-DCE)
- trans-1,2-Dichloroethylene
- cis-1,2-Dichloroethylene
- 1,1,1-Trichloroethane (TCA)
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- Vinyl Chloride

The sub-slab soil vapor testing results are summarized in Table 2-4, Table 2-5, and Table 2-6, respectively. The laboratory data reports are in Appendix C.

2.4 Indoor Air Sampling

From January 2006 through June 15, 2019, GEI collected indoor air samples at 75 residences and commercial buildings. Fig. 2-2 shows buildings where GEI conducted indoor air sampling. The procedure for collecting indoor air samples was presented in IRA Status Report No. 3. Samples are typically collected from the basement and first floor of each building.

Between December 16, 2018 and June 15, 2019, GEI collected indoor air samples from three residential properties (13 Knowlton Street, 163 Glen Street, and 60 Tufts Street) to support AEPMM shutdown evaluations. The indoor air samples were submitted to Alpha for laboratory analysis by EPA Method TO-15 with the following modified list of analytes:

- 1,1-Dichloroethane
- 1,1-Dichloroethylene (1,1-DCE)
- trans-1,2-Dichloroethylene
- cis-1,2-Dichloroethylene
- 1,1,1-Trichloroethane (TCA)
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- Vinyl Chloride

The recent and historical indoor air testing results are summarized in Tables 2-7 through 2-11. The laboratory data reports are in Appendix C.

2.5 Indoor Air Sampling – Checklists and Methods

GEI collected indoor air samples from the basement and first floor of residences using SUMMA® canisters and regulators provided by Alpha. Each canister was certified clean by Alpha. Copies of the certifications are in Appendix C. Typically, indoor air samples were collected over an approximately 24-hour period in residential buildings.

Flow regulators were attached to the SUMMA® canisters at the location of the testing. The SUMMA® canisters were placed so that the air inlet was approximately 3 to 5 feet above the floor. The laboratory-set flow regulator was then turned on, and the starting pressure and time recorded. The regulator was turned off before reaching ambient pressure, and the final pressure and time were recorded. Pre-Sampling Checklists, Indoor Air Sampling Checklists, and Photo Logs completed for each indoor air sample collected during this reporting period are in Appendix D.

2.6 Meteorological Conditions

GEI typically measures outdoor meteorological conditions during each of the indoor air sampling events. GEI also typically measures indoor temperature and barometric pressure during indoor air sampling. Measurements were taken with a portable barometer and thermometer, and were recorded on the Indoor Air Sampling Checklists (Appendix D). Meteorological conditions recorded during indoor air sampling events for this reporting period are summarized in Table 2-12.

3. Capuano Center

3.1 Background

The mitigation system at the Capuano Center is an SSDS with 18 sub-slab extraction points in six classrooms of the east wing. The interior slab/exterior wall joints of the six classrooms were sealed with a flexible epoxy sealant and extraction points were installed horizontally through the exterior wall. GEI began operating the SSDS on February 1, 2007.

Prior to April 2015, the extraction points were attached to three collection headers in exterior underground trenches and were operated by a 1.5-horsepower regenerative blower with pressure gauges, controls, and particulate filter housed in a garden-style shed. One discharge pipe extended from the blower shed to above the roofline of the Capuano Center.

In April 2015, system modifications were performed including removing the regenerative blower and associated equipment, and extending the three dedicated discharge pipes with radon fans for each collection header above the roofline of the Capuano Center. During the system modification, remote telemetry was also installed at the Capuano Center system. The remote telemetry consists of two radio nodes and three pressure switches connected to the three radon fans to send notification of a system shut down remotely to the wireless remote monitoring hub located at the Property.

The system does not include off-gas treatment. Based upon the measured flow rate and VOC concentrations, the annual discharge rate of VOCs from the system has been significantly less than 100 lbs per year; therefore, no off-gas treatment is required per MassDEP Policy No. WSC-94-150: "*Off-gas Treatment of Point-Source Remedial Air Emissions*," dated 1994.

3.2 Remedial Objectives

The design objectives of the Capuano Center mitigation system were to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for occupants of the Capuano Center.

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences the southern portion of the east wing. In conjunction with the physical sealing of the slab/wall joint, this indicates the soil vapor migration pathway to indoor air is controlled by the system.

3.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP, and in accordance with the requirements and schedule presented in subsequent Phase IV Status Reports, and the Phase IV FIR/Phase V ROS.

Monitoring of the system was historically performed monthly; however, once telemetry was installed on the system, GEI began performing quarterly monitoring in July 2015. Monitoring of system parameters at the headers (flow rate, vacuum, and photoionization detector [PID] readings) and PID readings at outdoor monitoring points are conducted quarterly. Inspection and monitoring at the Capuano Center were performed two times from December 2018 to June 2019. A summary of monitoring activities conducted during this reporting period is in Table 3-1 and the Field Monitoring Forms are in Appendix E.

3.4 System Modifications

In response to fluctuations in vacuum readings, on December 22, 2016 GEI drilled drainage holes below the fan on each of the PVC header pipes as an interim measure to prevent condensate from building up and freezing inside the pipes during the colder winter months. The drainage holes have been effective at preventing the accumulation of condensate or ice within the header pipes, and vacuum readings have stabilized. On December 6, 2017, GEI adjusted the pitch on one of the PVC header pipes to improve drainage of condensate back into the ground surface. Following the pitch adjustment, there have been no vacuum fluctuation issues associated with accumulated condensate. GEI will continue to evaluate the potential for condensate accumulation during subsequent winter monitoring rounds, and whether additional pitch adjustments on the system piping are required. In June 2019, GEI replaced the pressure switch at each of the three fans in response to a telemetry message inaccurately indicating the fans were off when they were in fact operational. Following the change of the pressure switches, the telemetry system has been accurately reporting that the fans are running.

3.5 Performance Efficiency and Effectiveness

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences the southern portion of the east wing. In conjunction with the physical sealing of the slab/wall joint, this indicates the soil vapor migration pathway to indoor air is controlled by the system. GEI also performed post-modification indoor air sampling in May 2015. VOCs were not detected above laboratory reporting limits during the indoor air sampling, indicating that the modified system continues to achieve the remedial objectives.

GEI has completed 24 rounds of indoor air sampling in the Capuano Center. The results of each round of sampling show that the system is meeting remedial design objectives (Table 3-2). Based on the indoor air testing results, and regularly collected system performance data, the soil vapor migration pathway to indoor air has been eliminated and a condition of NSR has been achieved for occupants of the Capuano Center. GEI has discontinued indoor air sampling and will rely on monitoring of operating parameters for the system to confirm continued effectiveness.

3.6 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the subsurface collection header pipes, or the cleanout drain for the header pipes. If observed, SSDS condensate will be pumped from the headers into the cleanout, which drains into the subsurface at the property.

3.7 Future Phase V Activities

Based on indoor air testing results, a condition of NSR has been achieved for occupants of the Capuano Center and the system is achieving the remedial design objectives. Since remote telemetry is now installed on the system, GEI will continue to monitor operational parameters, sub-slab conditions for the system (e.g., flow rate, vacuum), and collect readings from all outdoor monitoring points quarterly, to confirm ongoing system performance. GEI discontinued monitoring at interior monitoring points in April 2016, and instead relies on vacuum monitoring at exterior monitoring points to evaluate system effectiveness. During monitoring events, GEI will also perform maintenance tasks, which may include draining accumulated water from the collection headers and correcting any issues observed during routine inspection of system components.

3.7.1 Impact of 2014 MCP Amendments for AEPMMs

The MCP amendments effective June 20, 2014 include requirements for AEPMMs implemented as part of ROS (310 CMR 40.1026). As discussed above, an operating regime was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for the system.

The system formerly included telemetry that provided shutdown notification to GEI. The MCP requires that remote telemetry provide the owner and operator of the building and MassDEP notification upon failure of the system. GEI installed remote telemetry as part of the system modifications in April 2015 to provide the required shutdown notifications.

The operating regime in the Phase IV FIR/Phase V ROS did not identify the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and

that poses NSR. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in Status Report No. 7 and RMR No. 22, the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR is 6 years for the Capuano Center system.

3.7.2 Regulatory Closure

As discussed further in Section 4.5, a Permanent Solution with Conditions can be achieved for properties where an AEPMM has achieved the remedial objectives, an AUL has been recorded for the property, and telemetry is installed. A Partial Permanent Solution with Conditions Statement may be submitted to achieve regulatory closure for the Capuano Center if the owner of the property, the City of Somerville, executes an AUL.

4. Residential and Commercial Properties

4.1 EPMM Installation

Through June 15, 2019, EPMMs had been installed at 23 residential and commercial properties. EPMMs were also installed at 50 Tufts Street, 60 Tufts Street, and the Capuano Center. The EPMMs at 50 Tufts Street, 60 Tufts Street, and the Capuano Center are discussed separately in this report.

Between December 16, 2018 and June 15, 2019, no new EPMMs were installed. There are currently 21 installed EPMMs at the Site.

4.1.1 163 Glen Street

The American Legion Post, located at 163 Glen Street, is being converted to a residential apartment building. The renovation is being conducted by the Somerville Community Corporation, the current property owner. Most of the existing building foundation has been retained, and a vapor barrier and sub slab ventilation piping network have been installed beneath the foundation. Construction has been managed to avoid intercepting the water table, so no dewatering was necessary.

Installation of the vapor mitigation system and management of soil disturbed during construction were conducted as RAM activities between September 9, 2017 and November 22, 2017. GEI did not receive notification that these activities had commenced until they were largely completed. GEI submitted a RAM Plan to MassDEP on June 28, 2018. GEI submitted RAM Status Report No. 1 on November 9, 2018 and RAM Status Report No. 2 on May 10, 2019.

4.1.2 103 Washington Street

The property at 103 Washington Street is being redeveloped into commercial and residential space. The Property was sold by KRE Company in August 2018 to Clover Leaf Capital Holdings, according to real estate transactions published in the Somerville Journal. In March 2019, GEI observed that the building had been demolished. Prior to demolition GEI observed the removal of the SSDS fans and remote telemetry system at the building in May 2017. As the building at the property has been demolished, there is not a complete vapor intrusion pathway. GEI is communicating with the new property owner, Hodan Property, regarding the installation of a sub-slab vapor mitigation system into the new building proposed at the property.

4.1.3 105 Washington Street

The property located at 105 Washington Street is being redeveloped for mixed residential and commercial use. Hay-Con, Inc., the current owner of the property, contacted GEI to prepare a RAM Plan to address construction of the proposed residential apartment and commercial building, including installation of a vapor barrier and ventilation piping network. According to Hay-Con the construction will be managed to not intercept the water table. Additionally, the building will have a sub-slab piping network that could be retrofitted with a radon-type fan to operate as an active sub-slab depressurization system, if necessary. As of the date of this report, the house located at 105 Washington Street has been demolished, but no ground-breaking work has begun.

4.1.4 31 Tufts Street

The property at 31 Tufts Street is being redeveloped for residential use**.** E3 Development, Inc. is the designated developer. E3 Development is currently proposing a three to four story residential apartment building with above ground parking and a public open space. The property is currently used as a surface parking lot. As of the date of this report, no ground-breaking work has begun.

Fig. 4-1 shows the buildings with EPMMs installed. Table 4-1 presents the as-built design information for each installed EPMM.

Prior to installing EPMMs in occupied residences, GEI installed indoor air purifiers with activated carbon filters as a mitigation measure. At residences where the concentrations of chlorinated VOCs constituted a condition of NSR, UniFirst left the air purifiers, effectively giving them to the property owners.

The EPMM designs are categorized as Option 1, Option 2, or Option 3, as conceptually defined below:

- Option 1 – SSDS: This option includes the installation of one or more sub-slab vapor extraction points and a collection piping network connected to an electric fan located outside the building envelope. The fan is equipped with a condensate bypass drain and the fan exhaust is discharged above the eave line of the roof. To date, no SSDSs (except for the system at the Property) require off-gas treatment. This option is installed in buildings with adequate sub-slab air flow and a competent concrete slab, or those properties where vapor barrier and venting systems are infeasible.
- Option 2 – Vapor Trench: The vapor trench option consists of a sub-slab venting system installed in a shallow trench around the interior basement perimeter,

cement stucco applied to the walls, and an epoxy vapor barrier applied to the slab and stucco walls. The trench is backfilled with crushed stone and finished with approximately three inches of new concrete to meet the existing slab surface. This option is installed in buildings with poor sub-slab air flow, a competent concrete slab, and a fieldstone and/or brick foundation. Sub-slab vapors are vented through a piping network that exits the building envelope at the sill elevation and terminates above the eave line of the roof.

- Option 3 – New Slab: The new slab installation option consists of installing a new concrete slab, a sub-slab vapor barrier, and a floor venting system; applying cement stucco to the walls; and applying an epoxy vapor barrier to the new slab and stucco walls. This option is installed in buildings with poor sub-slab air flow, an incompetent concrete slab, and a fieldstone and/or brick foundation. As with Option 2, sub-slab vapors are vented through a piping network that exits the building envelope at the sill elevation and terminates above the eave line of the roof.

The decision-making process for selecting a conceptual design based on Site-specific conditions is illustrated in Fig. 4-2. Table 4-1 identifies the design option for each EPMM currently installed and the primary engineering components of each.

4.1.5 Remedial Objectives

The design objectives of the EPMMs were to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air in residential buildings.
- Achieve a condition of NSR for occupants of the residence or commercial building.

4.2 Option 1 EPMMs

Option 1 EPMMs consist of active sub-slab depressurization achieved by the installation of a radon fan and associated network of piping. Several of the Option 1 EPMMs were originally installed as Option 2 or Option 3 EPMMs; however, the concentrations of PCE measured in the post-installation indoor air did not constitute a condition of NSR, and a fan was installed. Option 1 EPMMs have been installed at the following 10 properties:

- 35-37 Knowlton Street (originally Option 3)
- 31-33 Knowlton Street
- 13 Morton Street
- 18 Morton Street

- 23 Tufts Street
- 103 Washington Street (deactivated May 31, 2017)
- 95 Franklin Street (originally Option 2)
- 9 Knowlton Street
- 13 Knowlton Street
- 27 Tufts Street (originally Option 3)

Prior to the MCP amendments effective June 20, 2014, these properties could not achieve a Permanent Solution because of the operation of an active system. These properties can now achieve regulatory closure with a Partial PSS with Conditions, provided that the property owner executes an AUL. The condition associated with the PSS would be operation and maintenance of the AEPMM in accordance with the AUL.

4.2.1 Operation and Monitoring

To confirm the performance of an EPMM, indoor air samples are collected shortly after installation is complete. As identified in the Phase IV FIR/Phase V ROS for Option 1 EPMMs, following the initial post-installation indoor air sampling, indoor air samples were collected one time per winter for two consecutive years. In accordance with MassDEP guidance, "*WSC No. 16-435: Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure*," dated October 14, 2016 (2016 VI Guidance), GEI has modified the post-installation indoor air sampling for newly installed Option 1 EPMMs to demonstrate effectiveness. Once a pressure differential has been established, one round of indoor air sampling will be performed during the heating season. The samples are analyzed for Site-specific chlorinated VOCs. Following one round of indoor air sampling, differential pressure across the slab will be used to demonstrate system effectiveness.

Inspection and monitoring also includes measuring VOCs at sub-slab sampling points with a PID, collecting pressure measurements using a manometer, and inspecting system components. If needed, repairs or modifications will be scheduled.

A summary of OMM activities performed for Option 1 EPMMs during this reporting period is presented in Table 4-2. EPMM Inspection Forms are in Appendix F.

Based on focused Method 3 risk characterization calculations performed by ARCADIS, which incorporate pre-EPMM indoor air sampling results, several Option 1 EPMMs at the Site may not be required to maintain a condition of NSR. This is a result of the updated MassDEP toxicity characterization for PCE issued in January 2014. During the reporting period, GEI performed AEPMM shutdown sampling at 13 Knowlton Street in accordance with the 2016 VI Guidance.

4.2.2 AEPMM Shutdown Testing at 13 Knowlton Street

On November 1, 2016, a shutdown valve was installed on the SSDS riser pipe at 13 Knowlton Street. To simulate conditions without operation of the AEPMM, the SSDS fan was turned off and the shutdown valve was closed, for one week, beginning on March 4, 2019, prior to collecting indoor air samples.

On March 11, 2019, one indoor air sample was collected in the basement and one sample was collected on the first floor. PCE was detected in both samples. Concentrations of PCE were detected at 0.210 ug/m^3 on the first floor and 4.70 ug/m^3 in the basement. No other chlorinated VOCs were detected in the samples at concentrations above the laboratory reporting limits.

On March 12, 2019, one soil vapor sample was collected from beneath the basement slab. PCE was detected at a concentration of 1.92 ug/m^3. No other chlorinated VOCs were detected in the sample at concentrations above the laboratory reporting limits.

After the indoor air and soil vapor sampling was completed, the shutdown valve was opened and the fan was reactivated.

GEI will perform one additional round of shutdown sampling to evaluate whether continued operation of the AEPMM is required to maintain a level of NSR. The next round of indoor air sampling will be conducted during the fall of 2019.

4.2.3 Impact of 2014 MCP Amendments for AEPMMs

The MCP amendments effective June 20, 2014 included requirements for AEPMMs implemented as part of ROS (310 CMR 40.1026). As discussed above, an operating regime was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for Option 1 EPMMs. However, telemetry was not installed at Option 1 EPMMs.

GEI has installed a Site-wide telemetry configuration consisting of a wireless remote network that is tied into the local wireless hub at the Property. Table 4-1 presents the Option 1 EPMMs where telemetry has been installed.

Remote telemetry has been installed at each property with an AEPMM, except for 9 Knowlton Street. The owner of 9 Knowlton Street has been unresponsive to telemetry access request letters, telephone calls, and property visits. Therefore, it is currently infeasible to install telemetry at this property.

The operating regime in the Phase IV FIR/Phase V ROS did not identify the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR, which was a new requirement under the MCP amendments. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in Status Report No. 7 and RMR No. 22, the following exposure times were calculated for Option 1 EPMMs where pre-EPMM indoor air data were available:

- 13 Knowlton Street: 54 years
- 23 Tufts Street: 11 years
- 27 Tufts Street: 25 years
- 31-33 Knowlton Street: 31 years
- 35-37 Knowlton Street: 4 years

Several Option 1 EPMMs were installed based on sub-slab soil vapor results, and pre-EPMM indoor air data are not available (including 13 Morton Street, 18 Morton Street, 95 Franklin Street, 103 Washington Street, and 9 Knowlton Street). However, based on the proximity of the AEPMMs throughout the Site, the shutdown exposure times calculated for the properties with pre-AEPMM indoor air data are likely representative of the AEPMM properties with no pre-AEPMM indoor air data. Therefore, the longest duration of shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR at these properties is likely between 4 and 54 years.

4.2.4 Efficiency and Effectiveness

For residential buildings, the primary goals for EPMM performance are the reduction of chlorinated VOC concentrations in indoor air to below laboratory reporting limits to the extent feasible, and to achieve a condition of NSR. For commercial buildings, the standard for successful EPMM performance is the reduction of chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR.

Through June 15, 2019, the results of post-EPMM installation indoor air sampling and monitoring indicate that each of the Option 1 EPMMs installed or activated at residential and commercial properties has achieved the remedial objectives.

4.2.5 System Maintenance and Modifications

On April 17, 2019, GEI replaced the node batteries at all residences with AEPMMs.

4.2.6 Management of Waste Materials

No waste materials associated with Option 1 EPMMs were generated during the reporting period.

4.3 Option 2 and 3 EPMMs

Option 2 and 3 EPMMs consist of passive vapor barriers and do not require mechanical operation or maintenance. Option 2 or 3 EPMMs have been installed at the following 11 properties:

- 95R Franklin Street (Option 2)
- 12 Morton Street (Option 3)
- 11 Morton Street (Option 2)
- 4 Morton Street (Option 3)
- 10 Morton Street (Option 3)
- 91-93 Franklin Street (Option 3)
- 17 Knowlton Street (Option 3)
- 32 Knowlton Street (Option 3)
- 34 Knowlton Street (Option 3)
- 19-19A Morton Street (Option 3)
- 166-168 Glen Street (Option 3)

In accordance with the MCP (310 CMR 40.1000) prior to the June 20, 2014 MCP amendments, regulatory closure was achieved with a Class A-3 Response Action Outcome Partial (RAO-P) Statement for several properties with an Option 2 or 3 EPMM. The properties that have achieved a Class A-3 RAO-P are presented in Fig. 4-3. In the amended MCP, the term "Response Action Outcome" has been replaced with "Permanent or Temporary Solution." Subsequent regulatory closure for individual properties with Option 2 or 3 EPMMs will be achieved with Partial PSSs with Conditions. The condition associated with the PSSs with Conditions will be maintenance of the passive EPMM in accordance with an AUL.

4.3.1 163 Glen Street

The commercial property at 163 Glen Street is being redeveloped into residential space by Somerville Community Corporation. GEI has coordinated installation of an EPMM in the renovated building as provided in the RAM Plan submitted to MassDEP on June 28, 2018.

RAM activities completed at 163 Glen Street include installation of a vapor barrier and a sub-slab ventilation piping network (piping network) beneath the building, and management of potentially contaminated soil. Soil excavated as part of construction was reused on-site beneath the building foundation slab. To date, no excess soil has been transported off-site. Sub-slab soil vapor sampling points have been installed. One round of sub-slab soil vapor sampling was conducted in February 2018, as described in previous reports. Additional sub-slab soil vapor sampling was conducted in April 2019 following significant completion of building envelope renovation to evaluate post-construction sub-slab soil vapor conditions. Indoor air testing was conducted in April 2019 following completion of building renovation to evaluate EPMM effectiveness. The results of soil vapor samples collected at 163 Glen Street in April 2019 were less than the applicable MassDEP Residential Soil Vapor Screening Values, similar to results previously collected at the property, indicating that the vapor intrusion pathway is unlikely to be of concern under current conditions even in the absence of the EPMM. Based on these results the EPMM installed at the property is not required to mitigate vapors from entering the indoor air at the building, and therefore an AUL is not required. GEI will prepare a RAM Completion Report and Permanent Solution Statement during the next reporting period.

4.3.2 Operation and Monitoring

To confirm the performance of an EPMM, indoor air samples are collected shortly after installation is complete. As identified in the Phase IV FIR/Phase V ROS for Option 2 and 3 EPMMs, following the initial post-installation indoor air sampling, indoor air samples were collected two times per year (including one winter sample) for two consecutive years. In accordance with MassDEP 2016 VI Guidance, GEI has modified the post-installation indoor air sampling for newly installed Option 2 and 3 EPMMs to demonstrate effectiveness:

- If groundwater concentrations are less than two times the Method 1 GW-2 standard, and sub-slab soil gas concentrations are less than two times soil gas screening values, and indoor air concentrations are less than two times threshold values (TVs), GEI will perform 2 rounds of indoor air sampling, with one round occurring during the heating season.
- If groundwater concentrations are greater than two times the Method 1 GW-2 standard, and/or sub-slab soil gas concentrations are greater than two times soil gas screening values, and/or indoor air concentrations are greater than two times TVs, GEI will perform quarterly indoor air sampling, with two rounds occurring during the heating season.

Additional indoor air sampling beyond the first year may be performed based on property-specific conditions. Samples will be analyzed for Site-specific chlorinated VOCs.

During indoor air sampling, the condition of the EPMM will be inspected and, if needed, repairs or modifications will be scheduled.

Following the completion of post-installation indoor air sampling, annual inspection and monitoring will include inspecting system components. If needed, repairs or modifications will be scheduled.

A summary of OMM activities performed for Option 2 and 3 EPMMs during this reporting period is presented in Table 4-2. EPMM Inspection Forms are in Appendix F.

4.3.3 Efficiency and Effectiveness

For residential buildings, the primary goals for EPMM performance are the reduction of chlorinated VOC concentrations in indoor air to below laboratory reporting limits to the extent feasible, and to achieve a condition of NSR. For commercial buildings, the standard for successful EPMM performance is the reduction of chlorinated VOC concentrations in indoor air to that which constitutes a condition of NSR.

Through June 15, 2019, the results of post-EPMM installation indoor air sampling indicate that the Option 2 or 3 EPMMs currently installed at residential properties have achieved the remedial objectives.

4.3.4 System Maintenance and Modifications

No modifications were made to systems during the reporting period.

4.3.5 Management of Waste Materials

No waste materials associated with Option 2 or 3 EPMMs were generated during the reporting period.

4.4 Activity and Use Limitations

It is anticipated that AULs may be recorded for each property where an EPMM is installed and the property owner executes the AUL. No AULs were recorded during this reporting period.

4.5 Permanent Solution Statements

An evaluation of the MNA program indicates that the groundwater plumes are stable, overall groundwater concentrations of chlorinated VOCs are not increasing, and natural attenuation processes are occurring at the Site which will likely reduce contaminant concentrations in groundwater over time. Previous investigations have also demonstrated that soil vapor

plumes are stable. Visible NAPL has not been observed at the Site, and any DNAPL that may be present is not migrating and exists in a stable configuration. The Phase III demonstrated that it is not feasible to eliminate DNAPL at the Site. There are no unpermitted releases of OHM at the Site. Accordingly, all sources of OHM at the Site have been eliminated or controlled to the extent feasible.

The Updated 2015 Method 3 Risk Characterization that ARCADIS prepared was presented in Phase V Status Report No. 8 and RMR No. 23. The Updated 2015 Method 3 Risk Characterization incorporated updated soil, groundwater, and indoor air data sets, and also included updated MassDEP toxicity information, particularly for PCE and TCE. Based on the Updated 2015 Method 3 Risk Characterization, a condition of NSR exists for current and future building occupants at each property within the Site. Based on the Updated 2015 Method 3 Risk Characterization, a condition of NSR does not exist for future construction workers performing excavations at the Property or within the MBTA railroad right-of-way. The inhalation of excavation air pathway associated with the MassDEP change in TCE toxicity is the main driver of potential risks for construction workers in both of these exposure areas. However, these construction worker risks can and should be managed with a Health and Safety Plan (HASP) that is prepared and implemented prior to subsurface work in these exposure areas.

Based on a demonstration of source control at the Site, and a condition of NSR at individual properties, many of the individual properties are eligible for a Partial PSS in accordance with the MCP (310 CMR 40.1000). The filing of a Partial PSS for an individual property documents the achievement of regulatory closure under the MCP. Therefore, the Phase V provisions do not apply to properties for which an RAO-P or Partial PSS has been submitted.

The properties that have achieved a Partial PSS are shown on Fig. 4-3. A summary of the different classes of Partial PSSs to be submitted in the future for properties at the Site, depending on the property-specific conditions and the type of mitigation, if any, are discussed below.

Active operation and maintenance is required for Option 1 EPMMs. Based on the MCP amendments effective June 20, 2014, a PSS with Conditions can be achieved for properties with an Option 1 EPMM. GEI has initiated communications with the owners of properties with Option 1 EPMMs to discuss implementation of AULs to achieve regulatory closure.

4.5.1 Permanent Solution without Conditions

GEI will prepare a Partial PSS without Conditions for residences where multiple lines of evidence have demonstrated the absence of a soil vapor migration pathway to indoor air and an EPMM is not required. GEI will also prepare Partial PSSs for residences where a Method 3 Risk Characterization, based on multiple rounds of sampling, indicated that

concentrations of chlorinated VOCs in indoor air constitute NSR, and the feasibility evaluation demonstrated that installation of an EPMM was infeasible. In addition, GEI will prepare a Partial PSS without Conditions for the portion of the Site occupied by public rights-of-way. During the reporting period, a Partial PSS without Conditions was submitted for 76 Franklin Street. The properties that have achieved a Partial PSS without Conditions are shown in Fig. 4-3.

4.5.2 Permanent Solution with Conditions

GEI will attempt to record an AUL at each property with an Option 1, 2 or 3 EPMM to maintain the integrity of the EPMM. After an AUL is recorded, GEI will prepare a Partial PSS with Conditions for residential properties with Option 1, 2 or Option 3 EPMMs where 2 years of post-installation indoor air samples have demonstrated that the EPMM is effective. Following the post-installation indoor air sampling, GEI will continue annual inspections of Option 1, 2 and 3 EPMMs as provided for in the Phase IV RIP. The properties that have achieved a Partial PSS with Conditions are shown in Fig. 4-3. If a property owner does not execute an AUL, inspections will continue as Phase V activities.

4.6 Future Phase V Activities

4.6.1 EPMM Operation and Monitoring

The results of post-EPMM installation indoor air sampling indicate that the Option 1, 2, and 3 EPMMs installed at the Site have achieved the remedial objectives.

GEI will continue to conduct annual OMM activities for installed EPMMs where sufficient indoor air sampling has been conducted, but not repeat indoor air testing, to confirm it is achieving the remedial design objectives.

GEI has been communicating with property developers for 103 Washington Street, 105 Washington Street, and 31 Tufts Street. If new EPMMs are installed, GEI will plan with the property owners to continue the operation and monitoring program outlined in Section 4.2 and Section 4.3.

4.6.2 EPMM Modifications

As discussed in Section 4.1, the properties located at 103 and 105 Washington Street are being redeveloped into commercial and residential spaces. The buildings at both properties have been demolished and the AEPMMs in those buildings have been removed.

As discussed in Section 4.2.2, remote telemetry has been installed at each Option 1 EPMM except for 9 Knowlton Street. The owner of 9 Knowlton Street has been unresponsive to

telemetry access request letters, telephone calls, and property visits. Therefore, it is infeasible to install telemetry at the property.

4.6.3 EPMM Closure Sampling

As discussed in Section 4.2.2, GEI collected indoor air samples from 13 Knowlton Street in February 2018 and March 2019 to demonstrate that the Option 1 EPMM is not required to maintain a condition of NSR.

In accordance with MassDEP's 2016 VI Guidance, GEI will continue the closure sampling program during fall 2019:

- GEI will perform indoor air sampling at 13 Knowlton Street;
- The SSDS fan will be shut down for 7 days prior to indoor air sampling;
- The shutdown valves will be closed for 7 days prior to sampling to effectively prevent venting; and
- Following the sampling event, the system will be returned to normal operating conditions.

Based on the results of the Option 1 EPMM closure sampling, GEI will re-evaluate the need for an AEPMM to achieve a condition of NSR at 13 Knowlton Street.

4.6.4 Installation of New EPMMs

GEI is communicating with property developers at 103 Washington Street, 105 Washington Street and 31 Tufts Street concerning potential vapor mitigation controls that may be incorporated into the new proposed buildings at those properties, if necessary.

4.6.5 AULs and Permanent Solutions

As discussed in Section 4.5, the source of contamination at the Site has been controlled. If post-installation indoor air sampling at a property demonstrates that an EPMM continues to achieve the remedial objectives, then that property is eligible for a Partial PSS with Conditions.

GEI anticipates recording AULs for each property where an EPMM is installed and a Partial PSS with Conditions is to be issued.

Once the AULs are recorded, GEI will prepare a Partial PSS with Conditions for the properties with EPMMs. As discussed in Section 4.5.1, GEI will prepare Partial PSSs for those properties that did not require mitigation.

5. 60 Tufts Street

5.1 Background

60 Tufts Street is a 17-unit condominium building adjacent to the Property. The mitigation system at 60 Tufts Street was designed and constructed as an SSDS. The SSDS includes 12 vertical sub-slab extraction points and 2 horizontal foundation wall extraction points connected to 2 collection headers and a 5-horsepower regenerative blower with pressure gauges, controls, and particulate filter housed in a locked metal enclosure. GEI began operation of the SSDS on April 24, 2009. A discharge pipe extends from the blower through a parking garage deck and discharges above the roofline of the building.

On July 24, 2015, remote telemetry was installed at 60 Tufts Street. The remote telemetry consists of one radio node and one pressure switch connected to the blower to send notification of a system shut down remotely to the wireless remote monitoring hub located at the Property.

The system does not include off-gas treatment. Based upon the measured flow rate and VOC concentrations, the annual discharge rate of VOCs from the system will be significantly less than 100 lbs per year; therefore, no off-gas treatment is required per MassDEP Policy No. WSC-94-150.

5.2 Remedial Objectives

The objectives of the SSDS at 60 Tufts Street are to:

- Eliminate or mitigate, to the extent feasible, the potential soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for occupants of the condominium building.

5.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP, and in accordance with the requirements and schedule presented in subsequent Phase IV Status Reports, and the Phase IV FIR/Phase V ROS.

Operational parameters for the system (e.g., flow rate, vacuum) were historically monitored monthly and indoor air quality in Units 1, 4, and 5 and sub-slab conditions were monitored for 2 years following installation of the EPMM. The Phase IV RIP provided for ongoing annual indoor air sampling. However, post-EPMM indoor air sampling and visual

inspections confirmed that the EPMM at 60 Tufts Street has been constructed in accordance with the Phase IV RIP, and has achieved the remedial design objectives. Accordingly, GEI no longer conducts annual indoor air testing, but has continued to monitor operational parameters of the system.

Once remote telemetry was installed on the system on July 24, 2015, GEI began to perform monitoring of system parameters on a quarterly basis in July 2015. Inspection and monitoring at 60 Tufts Street was performed two times from December 2018 to June 2019. A summary of monitoring activities conducted during this reporting period is provided in Table 5-1 and the Field Monitoring Forms are provided in Appendix E.

5.4 Performance Efficiency and Effectiveness

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS influences nearly the entire floor slab area. Indoor air samples were collected in Units 1, 4, and 5, which are the units closest to the ground floor, for 2 years after EPMM installation. The indoor air testing results indicated that a condition of NSR has been achieved for building occupants at 60 Tufts Street and the soil vapor migration pathway to indoor air has been mitigated to the extent feasible.

5.4.1 AEPMM Shutdown Testing

On March 20, 2018, a shutdown valve was installed on the SSDS riser pipe at 60 Tufts Street. To simulate conditions without operation of the AEPMM, the SSDS fan was turned off and the shutdown valve was closed for one week beginning on April 17, 2019, prior to collecting soil vapor and indoor air samples.

On April 24, 2019, four indoor air samples were collected from common spaces within the building, one indoor air sample was collected in Unit 1 and two indoor air samples were collected in Unit 4. The samples were collected over a 24-hour period. The results of the sampling are:

- PCE was detected in all four samples collected within the common spaces of the building at concentrations ranging from 0.142 to 0.292 µg /m^3. No other CVOCs were detected in the samples at concentrations above the laboratory reporting limits.
- PCE was detected in the indoor air sample collected in Unit 1 at a concentration of 0.712 µg/m^3. No other CVOCs were detected in the sample at concentrations above the laboratory reporting limits.
- TCE was detected in both samples collected in Unit 4 at concentrations of 0.698 µg/m^3 in the basement sample and 0.264 µg/m^3 in the first floor sample.

Concentrations of trans-1,2-dichloroethylene was detected in the basement sample at 0.115 µg/m^3. No other chlorinated CVOCs were detected in the samples at concentrations above the laboratory reporting limits.

On April 25, 2019, four soil vapor samples were collected from common spaces within the building, one soil vapor sample was collected from Unit 1 and one soil vapor sample was collected from Unit 4. The results of the sampling are summarized below:

- TCA was detected above the laboratory reporting limit in all four samples collected within the common spaces of the building in concentrations ranging from 7.1 to 251 µg /m^3. Concentrations of PCE and TCE were detected in three samples (SS1, SS10, and SS14) at concentrations ranging from 4.56 to 108 µg /m^3 and 3.41 to 16.9 µg /m^3, respectively. DCE was detected in one sample (SS1) at a concentration of 41.6 µg/m^3. No other CVOCs were reported above the laboratory analytical reporting limits.
- PCE was detected at 125 µg /m^3, TCA was detected at 124 µg /m^3, and TCE was detected at 7.95 µg /m^3 in the sample collected from Unit 1. No other CVOCs were detected in the sample above the laboratory reporting limits.
- PCE was detected at 2.95 µg /m^3 and TCA was detected at 1.57 µg /m^3 in the sample collected from Unit 4. No other chlorinated VOCs were detected in the sample above the laboratory reporting limits.

GEI performed risk assessment screening for the April 24, 2019 indoor air results in accordance with MassDEP protocols. The risk assessment screening demonstrates that the indoor air concentrations pose NSR to a residential occupant exposed for 24-hours per day.

After the indoor air sampling was completed, the shutdown valve was opened, and the blower was reactivated.

GEI will perform one additional round of closure sampling to evaluate whether continued operation of the AEPMM is required to maintain a level of NSR. The next round of indoor air sampling will be conducted during the winter of 2019.

5.5 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the cleanout drains for the sub-surface header pipes, or in the moisture separator installed as part of the blower assembly. If observed, the liquid will be drained and dispensed to the bare ground surface at 60 Tufts Street so that it can infiltrate into the subsurface within the Site boundary.

5.6 System Modifications

No system modifications were made during the monitoring period.

5.7 Future Phase V Activities

The system is achieving the remedial design objectives and OMM activities will continue. To confirm system performance, GEI will continue to monitor operational parameters and sub-slab conditions (e.g., flow rate, vacuum) on a quarterly basis. During monitoring events, GEI will also perform maintenance tasks as needed, which may include documenting that the blower is in operation, draining accumulated water from the moisture separator or collection headers, changing the filter element for the blower, changing the batteries in the auto-dialer, and correcting any issues observed during routine inspection of system components. GEI will implement any modifications to the telemetry system and VFD that may be required.

5.7.1 EPMM Closure Sampling

Based on pre-EPMM indoor air testing at 60 Tufts Street, and changes to the toxicological characteristics for PCE, the EPMM may not be required to maintain a condition of NSR. GEI has communicated with the owners and occupants of 60 Tufts Street, who are amenable to EPMM closure indoor air testing.

In accordance with MassDEP's 2016 VI Guidance, GEI initiated a closure indoor air testing program at 60 Tufts Street during spring 2018, which consists of:

- Installing a shutdown valve on March 20, 2018 on the ventilation piping of the EPMM;
- Performing indoor air sampling at 60 Tufts Street in July 2018 and April 2019;
- Shutting down the SSDS fan for 7 days prior to indoor air sampling;
- Keeping the shutdown valve closed for 7 days prior to sampling to effectively prevent venting; and
- Following each sampling event, returning the system to normal operating conditions.

Based on the results of the Option 1 EPMM closure sampling, GEI will re-evaluate the need for an EPMM to achieve a condition of NSR.

5.7.2 Impact of 2014 MCP Amendments for AEPMMs

The MCP amendments effective June 20, 2014 include requirements for AEPMMs implemented as part of ROS (310 CMR 40.1026). As discussed above, an operating regime was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for the system and the existing telemetry that provides shutdown notification to GEI. As described above, remote telemetry was installed at 60 Tufts Street in July 2015.

The operating regime in the Phase IV FIR/Phase V ROS did not identify the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR, which was a new requirement under the MCP amendments. In accordance with the MCP (310 CMR 40.1026[3][e]), and as presented in Status Report No. 7 and RMR No. 22, the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR is 52 years for the 60 Tufts Street property.

5.7.3 Regulatory Closure

As discussed previously in Section 4.5, a Permanent Solution with Conditions can be achieved for properties where an AEPMM has achieved the remedial objectives, an AUL has been recorded for the property, and telemetry is installed. A Partial Permanent Solution Statement with Conditions may be submitted to achieve regulatory closure for 60 Tufts Street if the condominium association for the property executes an AUL. If the last round of shutdown testing demonstrates that an AEPMM no longer is required to maintain a condition of NSR, then a Partial Permanent Solution may be achievable without an AUL.

6. 50 Tufts Street Property

6.1 Background

The remedial system at the Property was originally designed and constructed as an SSDS that includes 22 sub-slab extraction points inside the building, a 15-horsepower regenerative blower with pressure gauges, controls, and particulate filter, and three 2,000-lb activated carbon absorbers operated in series for off-gas treatment. As part of the SSDS installation, the building slab was sealed to minimize vapor transmission through the slab. The cracks and joints in the building slab were filled with flexible sealant and a two-part epoxy coating was applied to the surface of the slab. GEI began operating the SSDS on April 30, 2007.

In July and August 2007, SVE components were added to the system as part of the CRA to address residual VOCs in soil. The SVE system includes seven SVE points installed below the pavement in the north and south parking lots on the Property. The SSDS and the SVE system rely upon shared equipment, including the piping manifold, blower assembly, and off-gas treatment units. GEI began operating the SVE system on August 22, 2007.

In April 2015, a wireless telemetry hub was installed at the Property. The telemetry hub receives telemetry notification from the other AEPMMs at the Site. A radio node was also installed and connected to monitor the 50 Tufts Street system.

6.2 Remedial Objectives

The design objectives of the combined SSDS/SVE system were to:

- Eliminate or mitigate, to the extent feasible, the soil vapor migration pathway to indoor air.
- Achieve a condition of NSR for a commercial full-time worker.
- Reduce the mass of contaminants in the vadose zone.
- Control the potential migration of soil vapor from the Property to the 60 Tufts Street property.

6.3 Inspection and Monitoring

The system has been monitored in accordance with the requirements and schedule in the Phase IV RIP. Monitoring of the system was historically performed monthly; however, once telemetry was installed on the system, GEI began performing quarterly monitoring in

July 2015. Operational parameters for the system (e.g., flow rate, vacuum, off-gas treatment efficiency) were monitored seven times from December 2018 to June 2019. GEI also measures the vapor pressure of sub-slab extraction points and monitoring points periodically. GEI uses these sub-slab pressure measurements to confirm system effectiveness. The pipe and hose connections on the pressure side of the blower are examined during monitoring visits for potential leaks. Leaks, if encountered, are corrected immediately. Carbon change-outs are scheduled based on carbon tank monitoring data to maximize VOC adsorption while maintaining compliance with regulatory requirements regarding discharge of VOCs to the atmosphere. Procedures to address potential spills of spent activated carbon during carbon change-outs have been developed and are presented in the system OMM Plan provided in the Phase IV RIP.

GEI performs monitoring for off-gas treatment efficiency monthly. Based on that monitoring, the system off-gas for the combined SSDS/SVE system was within permissible limits during the reporting period. A summary of monitoring activities during this reporting period is provided in Table 6-1, and Field Monitoring Forms are provided in Appendix E.

6.4 Performance Efficiency and Effectiveness

The SSDS monitoring data show that the sub-slab vacuum field generated by the SSDS covers most of the building slab area. In conjunction with the physical sealing of the slab, this indicates the soil vapor migration pathway to indoor air is being mitigated by the system. Based on indoor air testing results collected since the combined system has been in operation, a condition of NSR for full-time commercial workers has been achieved for the building at the Property.

The SVE system monitoring data show that vacuum influence from the SVE points in the south parking lot extends approximately 30 feet south of the building and from the SVE points in the north parking lot extends onto 60 Tufts Street.

Three influent and two effluent samples from the carbon treatment system were collected in May 2007, June 2007, and March 2008. The results of this sampling were compared with PID field measurements to estimate the total mass of VOCs removed from soil vapor between April 2007 and May 2014. However, GEI collected more recent influent and effluent samples in February 2014. The results of the February 2014 influent and effluent sampling are a better indicator of current system conditions, and were used to estimate the total mass of VOCs removed from soil vapor based on PID field measurements beginning in June 2014. Monitoring data from both the SSDS and SVE components through June 11, 2019 show that approximately 9,017 lbs (approximately 670 gallons) of VOCs have been removed from the vadose zone at the Property (Fig. 6-1).

6.5 Management of Waste Materials

Infrequently, condensate in system piping may accumulate in the moisture separator installed as part of the blower assembly. If observed, the liquid is drained from the moisture separator and dispensed to the bare ground surface at the Property so that it can infiltrate into the subsurface within the Site boundary.

Based on the previous quantities of spent carbon generated by the system, a 2017 Hazardous Waste Report was submitted to MassDEP on February 27, 2018, identifying the Property as a Large Quantity Generator (LQG) facility. GEI operated the system as an LQG in 2017. GEI will submit the next biennial Hazardous Waste Report in March 2020.

No remediation waste was generated during this reporting period.

6.6 System Modifications

On April 4, 2019, GEI observed a new telemetry contractor (Integrasense of Wilmington, MA) upgrade the telemetry system. Upgrades at the telemetry hub included: hardware upgrades, upgrading the connection from 2G to 3G/4G LTE, installation of a differential pressure transmitter, and software upgrades to comply with evolving MassDEP telemetry requirements.

6.7 Future Phase V Activities

The system is achieving the remedial design objectives. Phase V ROS OMM activities will continue in accordance with the requirements and schedule set forth in the Phase IV RIP.

6.7.1 Telemetry for AEPMMs

The MCP amendments effective June 20, 2014 include requirements for AEPMMs implemented as part of a ROS (310 CMR 40.1026). As discussed above, an operating regime was included in the Phase IV FIR/Phase V ROS submitted on August 4, 2011, which included an OMM plan for the system. Remote telemetry was installed at the Property in April 2015.

The operating regime in the Phase IV FIR/Phase V ROS did not identify the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an IH and that poses NSR, which is a requirement under the MCP amendments (310 CMR 40.1026[3][e]). Indoor air sampling performed at 50 Tufts Street by GeoInsight in September 2006 identified PCE concentrations ranging from 550 to 800 micrograms per cubic meter ($\mu g/m^3$), and TCE concentrations ranging from 16 to 150 $\mu g/m^3$. In accordance with the MassDEP Fact Sheet "*TCE Toxicity Information: Implications for Chronic and*

Shorter-Term Exposure," dated March 27, 2014, the pre-EPMM concentrations in the building would pose an IH even over a short time period, such as a matter of days. However, GEI performed indoor air sampling during an unscheduled SSDS/SVE system shutdown in March 2015. The March 2015 indoor air concentrations did not pose an IH, and TCE was not detected during the March 2015 indoor air sampling. Based on system monitoring logs, the system was likely down for slightly less than 1 month during the March 2015 shut down. This information indicates that an IH would not be present during a minor shut down of the 50 Tufts Street system. Because the building is currently occupied, sampling cannot be conducted after the system has been shut down for a full 60 days or longer, so the maximum duration for a system shutdown that might pose an IH is not known now.

GEI will continue to operate the AEPMM at 50 Tufts Street.

7. Monitored Natural Attenuation

7.1 MNA Program Objectives

MNA is part of the remedial strategy to reach a Permanent Solution for the Site. GEI has implemented an MNA program to confirm on-going natural attenuation is occurring at the Site. The MNA program is described in the MNA OMM Plan presented in the Phase IV RIP. The primary elements of the MNA program include:

- Plume Stability Monitoring: A groundwater sampling plan to monitor overburden and bedrock groundwater plume concentrations through time to confirm that the groundwater plumes are stable, and that overall groundwater concentrations of chlorinated VOCs are not increasing.
- Natural Attenuation Evaluation: An evaluation of overburden and bedrock groundwater plume concentrations through time for indications of the presence and rate of natural attenuation processes.

7.2 MNA Activities

GEI conducted the following MNA activities during the reporting period:

- Groundwater Level Measurements: GEI measured groundwater levels at monitoring wells shown in Table 7-1.
- Groundwater Sampling: GEI collected groundwater samples from 19 monitoring wells in April 2019, and submitted them for chemical testing for VOCs by EPA Method 8260B. Groundwater samples from a subset of wells were also analyzed for natural attenuation parameters. The sampling locations are shown in Fig. 2-1, the chemical testing results are shown in Table 2-2, and the laboratory data reports are in Appendix C.

GEI evaluated the groundwater chemical testing results collected during MNA activities to update and supplement the plume stability monitoring and natural attenuation evaluation. During this reporting period, annual groundwater sampling was conducted by GEI at 19 monitoring wells shown in Fig. 2-1.

Based on an analysis of the Mann-Kendall statistical trend test results, which incorporates the additional groundwater testing data, the PCE, TCE, and TCA groundwater plumes continue to be stable.

GEI has been monitoring concentration fluctuations in groundwater PCE concentrations in monitoring wells MW122 and MW112A, and TCE concentrations in monitoring wells MW118D and MW121D. The concentrations decreased slightly in MW122 and MW118D and increased slightly in MW121D and MW112A, during the last reporting period. These results are within a range of fluctuation that is consistent with continuing plume stability, particularly when considered in context with prior groundwater results from all monitoring wells. GEI will perform additional groundwater sampling of these monitoring wells in the fall of 2019.

To facilitate construction of the new Washington Street Pump Station, located on the MBTA's property on the south side of Washington Street, the MBTA pumped groundwater to dewater the excavation. According to the MBTA, PCE concentrations in the dewatering effluent increased as pumping continued. The MBTA's pumping therefore induced changes in the distribution of PCE in shallow groundwater at the southern boundary of the Site. Chlorinated VOCs were not detected in shallow groundwater near the new Washington Street Pump Station prior to the dewatering pumping (KE-117 in 2012). In February 2014, to simulate dewatering conditions prior to construction, Kleinfelder conducted pumping at KE-117 and then collected a groundwater sample for testing. The concentration of PCE was 760 µg/l in a groundwater sample collected under pumping conditions. After the pumping ceased, the concentration of PCE quickly decreased to 4.3 µg/l (April 2014). Based on this dewatering simulation at monitoring well KE-117, and subsequent Site-wide groundwater monitoring, the shallow groundwater concentrations likely reverted to pre-pumping conditions following the completion of groundwater dewatering.

Based on the results of Site-wide groundwater sampling from the wells monitored as part of the MNA program, these localized changes at the southern boundary during temporary dewatering have not affected the overall stability of the plumes.

8. Remedial Monitoring Report No. 31

Remedial Monitoring Report No. 31, documenting OMM activities for active remedial systems at the Site, is presented in the BWSC-108A and 108B Transmittal Forms in Appendix A.

9. References

MassDEP (1994). "Off-gas Treatment of Point-Source Remedial Air Emissions," Massachusetts Department of Environmental Protection, Policy #WSC-94-150, dated 1994.

GEI (2006). IRA Status Report No. 1, 50 Tufts Street, Somerville, MA, RTNs 3-23246, 3-24358 and 3-24376, dated May 8, 2006.

GEI (2006). IRA Status Report No. 2 and Plan Modification No. 3, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 13, 2006.

GEI (2007). IRA Plan Modification No. 4, 50 Tufts Street, Somerville, MA, RTNs 3-23246 and 3-26114, dated February 22, 2007.

GEI (2007). IRA Plan Modification No. 1, 50 Tufts Street, Somerville, MA, RTN 3-26114, dated April 12, 2007.

GEI (2007). IRA Plan Modification No. 5, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 5, 2007.

GEI (2007). IRA Status Report No. 3, 50 Tufts Street, Somerville, MA, RTN 3-23246 & IRA Status Report No. 1 RTN 3-26114, dated May 10, 2007.

GEI (2007). Remedial Monitoring Report No. 1, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 2, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 3, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 4, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 30, 2007.

GEI (2007). IRA Plan Modification No. 7, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 11, 2007.

GEI (2007). IRA Plan Modification No. 8, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 11, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 5, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 19, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 6A, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 31, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 6B, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 7A, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.

GEI (2007). Monthly Remedial Monitoring Report No. 7B, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 8, 2007.

GEI (2007). IRA Status Report No. 4, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 9, 2007.

GEI (2008). IRA Status Report No. 5 and Remedial Monitoring Report (RMR) No. 8, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 12, 2008.

GEI (2008). Phase II Comprehensive Site Assessment (CSA), Method 3 Risk Characterization, and Phase III Remedial Action Plan (RAP), 50 Tufts Street, Somerville, MA, RTN 3-23246, dated July 14, 2008.

GEI (2008). IRA Status Report No. 6 and Remedial Monitoring Report (RMR) No. 9, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated November 10, 2008.

GEI (2009). IRA Status Report No. 7 and Remedial Monitoring Report (RMR) No. 10, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.

GEI (2009). Phase IV Remedy Implementation Plan (RIP), 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.

GEI (2009). IRA Completion Report and Remedial Monitoring Report (RMR) No. 11, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated May 11, 2009.

GEI (2010). Phase IV Status Report No. 1 and Remedial Monitoring Report No. 12, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 8, 2009.

GEI (2010). Phase IV Status Report No. 2 and Remedial Monitoring Report No. 13, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 4, 2010.

GEI (2011). Phase IV Status Report No. 3 and Remedial Monitoring Report No. 14, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 11, 2011.

GEI (2011). Immediate Response Action Completion Report Amendment, RTN 3-23246, 50 Tufts Street Site, Somerville, Massachusetts, dated April 1, 2011.

GEI (2011). Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report. 50 Tufts Street, Somerville, Massachusetts, dated August 4, 2011.

GEI (2012). Phase V Status Report No. 1 and Remedial Monitoring Report No. 16, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 10, 2012.

GEI (2012). Phase V Status Report No. 2 and Remedial Monitoring Report No. 17, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 4, 2012.

GEI (2013). Phase V Status Report No. 3 and Remedial Monitoring Report No. 18, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 8, 2013.

GEI (2013). Phase V Status Report No. 4 and Remedial Monitoring Report No. 19, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2013.

GEI (2014). Phase V Status Report No. 5 and Remedial Monitoring Report No. 20, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 10, 2014.

GEI (2014). Phase V Status Report No. 6 and Remedial Monitoring Report No. 21, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 1, 2014.

GEI (2014). Release Abatement Measure Completion Report for 34 Knowlton Street, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated October 13, 2014.

GEI (2015). Phase V Status Report No. 7 and Remedial Monitoring Report No. 22, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2015.

GEI (2015). Phase V Status Report No. 8 and Remedial Monitoring Report No. 23, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 3, 2015.

GEI (2016). Phase V Status Report No. 9 and Remedial Monitoring Report No. 24, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2016.

GEI (2016). Phase V Status Report No. 10 and Remedial Monitoring Report No. 25, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 3, 2016.

GEI (2017). Phase V Status Report No. 11 and Remedial Monitoring Report No. 26, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2017.

GEI (2017). Phase V Status Report No. 12 and Remedial Monitoring Report No. 27, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2017.

GEI (2017). Phase V Status Report No. 13 and Remedial Monitoring Report No. 28, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 2, 2018.

GEI (2018). Phase V Status Report No. 14 and Remedial Monitoring Report No. 29, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated August 2, 2018.

GEI (2019). Phase V Status Report No. 15 and Remedial Monitoring Report No. 30, 50 Tufts Street, Somerville, MA, RTN 3-23246, dated February 5, 2019.

Tables

Table 2-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
5/23/2006	SH-MW1, SH-MW2, SH-MW3, GEO-1, GEO-2, MW-1, MW-	NA
5/24/2006	GEO-3, GEO-4, GEO-5, GEO-6, MW101, MW102 MW103,	Field Duplicate of GEO-3
5/25/2006	SH-4	NA
Groundwater Sampling		
8/7/2006	MW103	NA
Quarterly Groundwater Sampling		
10/4/2006	SH-MW1, SH-MW2, SH-MW3, GEO-3 GEO-4, GEO-5 and	Field Duplicate MW900 (GEO-3)
10/5/2006	GEO-1, GEO-2, MW101, MW102, MW103, MW104 and	NA
Quarterly Groundwater Sampling		
1/16/2007	SH-MW1, SH-MW2, GEO-3, GEO-4, GEO-5, GEO-6,	Field Duplicate MW900 (GEO-6)
1/17/2007	SH-MW3, MW-1, MW-3, GEO-1 and GEO-2	Field Duplicate MW800 (GEO-1)
1/18/2007	MW103, MW106, MW107, MW108, MW109, MW110 and	NA
Groundwater Sampling		
2/20/2007	MW113 and MW114	NA
3/23/2007	MW112A, MW115R AND MW116	NA
Quarterly Groundwater Sampling		
4/12/07	SHMW1, SHMW3, GEO1, GEO2 and MW113	NA
4/13/07	GEO3, MW101, MW102, MW103, MW104, MW106,	Field Duplicate MW900 (MW101)
4/16/07	SHMW2, GEO4, GEO5, GEO6, MW105, MW108, MW109,	Field Duplicate MW901 (GEO6)
5/23/07	MWCS1	NA
Quarterly Groundwater Sampling		
7/18/2007	MW102, MW107, MW108, MW11, MW112A, MW113, MW114, MW115R, M2116 and MW117S	Sample from MW102 was used for MS/MSD Field Duplicate MW900 (MW113) Field Duplicate MW901 (MW116)
7/19/2007	SHMW2, MW104, MW105, MW106, MW117T, MW117D,	NA
7/20/2007	MW118S, MW118T and MW118D	NA
Groundwater Sampling		
8/22/07	MW119S, MW119T, MW120S and MW120D	NA
8/30/07	MW118S, MW118T and MW118D	NA
Quarterly Groundwater Sampling		
10/10/2007	MW102, MW105, MW106, MW107, MW108, MW111, MW112A, MW113, MW114, MW115	Sample from MW102 was used for MS/MSD Field Duplicate MW900 (MW113)
10/11/2007	MW117T, MW117D, MW118S, MW118T, MW118D	NA
10/12/2007	MW116, MW119S, MW119T, MW120S, MW120D,	Field Duplicate MW901 (MW116)
10/15/2007	MW104, MW117S	NA
10/22/2007	MW121S, MW121D	NA

General Notes:
1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017 and April 2018 were also submitted for natural attenuation parameter testing.

Table 2-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
1/9/2008	MW105, MW115	NA
1/10/2008	MW102, MW106, MW107, MW108, MW111, MW112A	Sample from MW102 was used for MS/MSD
1/11/2008	MW104, MW113, MW114, MW116, MW117S, MW118S, MW201, MW202	Field Duplicate MW900 (MW113) Field Duplicate MW901 (MW116)
1/15/2008	MW117T, MW117D, MW118T, MW119S, MW120S,	NA
1/16/2008	MW118D, MW119T	NA
1/17/2008	MW120D	NA
Groundwater Sampling		
1/30/2008	MW122	NA
Quarterly Groundwater Sampling		
4/15/2008	GEO-1, SH-MW3, MW3, MW104, MW113, MW116, MW201, MW202, MW203	Field duplicate MW113 (MW900) Field duplicate MW116 (MW901)
4/16/2008	MW117S, MW117T, MW117D, MW118T, MW118D,	NA
4/17/2008	MW102, MW106, MW107, MW108, MW109, MW111, MW112A, MW114, MW115R, MW120D, MW121S,	Sample from MW102 was used for MS/MSD
4/18/2008	MW105	NA
Quarterly Groundwater Sampling		
7/14/2008	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
7/15/2008	GEO-1, GEO-2, MW-3, MW104,MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D,	Sample from MW104 was used for MS/MSD
7/16/2008	MW116, MW117S, MW117T, MW117D, MW118D	NA
Quarterly Groundwater Sampling		
10/21/2008	MW104, GEO-1, GEO-2 MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW202, MW-3	Sample from MW104 was used for MS/MSD
10/22/2008	MW105, MW112A, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122	Field duplicate MW112A (MW901) Field duplicate MW121D (MW900)
Quarterly Groundwater Sampling		
4/15/2008	GEO-1, SH-MW3, MW3, MW104, MW113, MW116, MW201, MW202, MW203	Field duplicate MW113 (MW900) Field duplicate MW116 (MW901)
4/16/2008	MW117S, MW117T, MW117D, MW118T, MW118D,	NA
4/17/2008	MW102, MW106, MW107, MW108, MW109, MW111, MW112A, MW114, MW115R, MW120D, MW121S,	Sample from MW102 was used for MS/MSD
4/18/2008	MW105	NA
Quarterly Groundwater Sampling		
7/14/2008	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
7/15/2008	GEO-1, GEO-2, MW-3, MW104,MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D,	Sample from MW104 was used for MS/MSD
7/16/2008	MW116, MW117S, MW117T, MW117D, MW118D	NA
Quarterly Groundwater Sampling		
10/21/2008	MW104, GEO-1, GEO-2 MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW202, MW-3	Sample from MW104 was used for MS/MSD
10/22/2008	MW105, MW112A, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122	Field duplicate MW112A (MW901) Field duplicate MW121D (MW900)

General Notes:
1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017 and April 2018 were also submitted for natural attenuation parameter testing.

Table 2-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Quarterly Groundwater Sampling		
1/12/2009	MW105, MW112A, MW121S, MW121D, MW122	Field duplicate MW112A (MW900) Field duplicate MW121D (MW901)
1/13/2009	GEO-1, GEO-2, MW117S, MW117T, MW117D, MW119S,	NA
1/14/2009	MW104, MW-3, MW116, MW118S, MW118T, MW118D	Sample from MW104 was used for MS/MSD
Quarterly Groundwater Sampling		
4/13/2009	GEO-1, GEO-2, MW105, MW112A, MW119S, MW119T, MW121S, MW121D, MW122	Field duplicate MW121D (MW900) Field duplicate MW112A (MW901)
4/14/2009	MW-3, MW104, MW117S, MW117T, MW117D, MW118T,	NA
4/15/2009	MW102, MW116, MW118S	NA
Quarterly Groundwater Sampling		
7/14/2009	MW105, MW112A, MW116, MW118T, MW121S, MW121D, MW202	Field duplicate MW121D (MW900) Field duplicate MW112A (MW901)
7/15/2009	GEO-1, GEO-2, MW-3, MW104,MW117S, MW117T, MS117D, MW118S, MW118D, MW119S, MW119T,	Sample from MW104 was used for MS/MSD
Quarterly Groundwater Sampling		
10/14/2009	GEO-1, GEO-2, MW104, MW105, MW112A, MW116, MW117S, MW117D, MW118S, MW118D, MW121S,	Field duplicate MW112A (MW900) Field duplicate MW118D (MW901)
10/15/2009	MW119T, MW119S, MW120S, MW120D, MW118T	Sample from MW104 was used for MS/MSD
10/16/2009	MW117T, MW3	
Annual Groundwater Sampling		
4/12/2010	MW104, MW105, MW112A, MW118S, MW118T, MW118D, MW121S, MW121D, MW122, MW202	Field duplicate MW112A (MW900) Sample from MW104 was used for MS/MSD
4/13/2010	GEO-1, GEO-2, SH-MW3, MW116, MW117S, MW117T, MW117D, MW119S, MW119T, MW120S, MW120D	Field duplicate MW116 (MW901)
Semi-Annual Groundwater Sampling		
10/27/2010	MW112A, MW122	NA
Annual Groundwater Sampling		
4/20/2011	MW105, MW112A, MW117D, MW118S, MW118T,	Field duplicate MW112A (MW900)
4/21/2011	GEO-2, SH-MW3, MW104, MW116, MW117S, MW117T	Field duplicate MW116 (MW901) Sample from MW104 was used for MS/MSD
4/22/2011	GEO-1, MW119S, MW119D, MW120S, MW120D, MW202	
Semi-Annual Groundwater Sampling		
11/16/2011	MW112A, MW122	NA
Annual Groundwater Sampling		
4/16/2012	SH-MW-3, MW112A, MW117S, MW117T, MW117D, MW118D, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D	Field duplicate MW112A (MW900)
4/17/2012	GEO-1, MW104, MW105, MW116, MW118T, MW122, MW202	Field duplicate MW116 (MW901) Sample from MW104 was used for MS/MSD

General Notes:
1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017 and April 2018 were also submitted for natural attenuation parameter testing.

Table 2-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Semi-Annual Groundwater Sampling		
11/12/2012	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/23/2013	SH-MW-3, MW105, MW117T, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122, MW202	NA
4/24/2013	GEO-1, MW104, MW112A, MW116, MW117S, MW117D, MW118S, MW118T, MW118D	Field duplicate MW116 (MW900) Field duplicate MW112A (MW901) Sample from MW104 was used for MS/MSD
5/1/2013	GEO-2	
Semi-Annual Groundwater Sampling		
11/18/2013	MW112A, MW118D, MW121D, MW122	NA
Kleinfelder Groundwater Sampling		
2/6/2014	KE-114-140206, KE-115-140206, KE-116-140206, KE-117-140206, MW-SR-140206, WashSW-140206	Sample from WashSW-140206 was a grab sample from the base of an open excavation.
4/8/2014	KE-202D, KE-202S	NA
4/9/2014	KE-117	NA
4/14/2014	KE-204, KE-206, KE-208	NA
4/15/2014	KE-205, KE-207, KE-209, KE-210	NA
Annual Groundwater Sampling		
4/30/2014	MW104, MW121S, MW121D, MW122, SH-MW-3, GEO-1, GEO-2	Sample from MW104 was used for MS/MSD
5/1/2014	MW117S, MW117T, MW117D, MW118S, MW118D, MW118T, MW119S, MW119T, MW120S, MW120D, MW116	Field duplicate MW116 (MW900)
6/11/2014	MW112A	NA
Semi-Annual Groundwater Sampling		
11/18/2014	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/2/2015	MW104, MW116, MW117S, MW117T, MW117D, MW118S, MW118D, MW119S, MW119T, MW121S, MW121D, MW122, SH-MW-3, GEO-1, GEO-2	Sample from MW104 was used for MS/MSD Field duplicate MW116 (MW901)
4/3/2015	MW118T, MW120S, MW120D	
4/17/2015	MW112A	Field duplicate MW112A (MW900)
Semi-Annual Groundwater Sampling		
11/19/2015	MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/28/2016	MW1112A, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW119S, MW119T, MW120S, MW120D, MW121S, MW121D, MW122, GEO-1	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901)
4/29/2016	MW104, MW116, MW202, GEO-2	Sample from MW104 was used for MS/MSD

General Notes:
1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017 and April 2018 were also submitted for natural attenuation parameter testing.

Table 2-1. Summary of Groundwater Sampling Activities
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sampling Event and Date	Sampled Locations	QA/QC Samples
Semi-Annual Groundwater Sampling		
11/21/2016	MW112A, MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/17/2017	MW104, MW116, MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW121S, MW121D, MW122, MW202, GEO-1	Field duplicate MW116 (MW900) Field duplicate MW112A (MW901) Sample from MW104 was used for MS/MSD
4/18/2017	MW112A, MW119S, MW119T, MW120S, MW120D, GEO-2	
4/28/2017	SH-MW-2, MW104	
Semi-Annual Groundwater Sampling		
11/8/2017	MW118D, MW121D, MW122	
11/10/2017	MW112A	NA
Annual Groundwater Sampling		
4/3/2018	MW117S, MW117T, MW117D, MW118S, MW118T, MW118D, MW119S, MW119T, MW121S, MW121D, MW122	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901) Sample from MW104 was used for MS/MSD
4/4/2018	GEO-1, GEO-2, MW104, MW112A, MW116, MW120S, MW120D, MW202, SH-MW-2	
Semi-Annual Groundwater Sampling		
11/15/2018	MW 112A MW118D, MW121D, MW122	NA
Annual Groundwater Sampling		
4/15/2019	MW112A, MW117S, MW117T, MW117D, MW118S, MW118D, MW121S, MW121D, MW122	Field duplicate MW116 (MW900) Field duplicate GEO-2 (MW901) Sample from SHMW2 was used for MS/MSD
4/16/2019	MW116, MW118T, MW119S, MW119T, MW120S, MW120D, MW202, SHMW2, GEO-1, GEO-2	

General Notes:
1. NA = not applicable.
2. QA/QC = quality assurance/quality check.
3. MS/MSD = matrix spike/matrix spike duplicate.
4. VOC = volatile organic compound.
5. All groundwater samples submitted for VOC testing. Selected samples collected in January 2007, April 2010, April 2011, April 2012, April 2013, April 2014, May 2014, June 2014, April 2015, April 2016, April 2017 and April 2018 were also submitted for natural attenuation parameter testing.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			GEO-1																						GEO-2								
Sample Name:			GEO-1	GEO-1	GEO-1	GEO-1	MW800 (FD)	GEO1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-1	GEO-2	GEO-2	GEO-2	GEO-2	GEO2	GEO-2	GEO-2	GEO-2	GEO-2	GEO-2
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4/15/08	7/15/08	10/21/08	1/13/09	4/13/09	7/15/09	10/14/09	4/13/10	4/22/11	4/17/12	4/24/13	4/30/14	4/2/15	4/28/16	4/17/17	4/4/18	4/16/19	5 to 20	5 to 20	5 to 20	5 to 20	4/12/07	7/15/08	10/22/08	1/13/09	4/13/09	7/15/09	10/14/09
Sample Date:			8/16/04	5/23/06	10/5/06	1/17/07	1/17/07	4/12/07																	8/16/04	5/23/06	10/5/06	1/17/07							
Collected By:			GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																															
Volatile Organic Compounds (VOCs)																																	
Acetone	8260	µg/l	< 400	< 5.0	< 5.0	< 5.0	< 5.0	9.7	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<50	<10	<10	487	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0
Benzene			< 20	< 0.50	< 0.50	< 0.50	< 0.50	0.27 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<2.5	<0.50	<0.50	< 5.0	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<50	<10	<10	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<2.0	<2.0	< 25	< 5.0	< 5.0	4.5 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 20	3.6	1.4	2.3	2.3	5.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 20	0.76 J	0.86 J	0.76 J	0.84 J	0.77 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 40	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 20	< 1.0	< 1.0	0.60 J	0.61 J	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	0.62 J	< 1.0	0.60 J	0.84 J
Chloromethane			< 40	< 2.0	3.7	< 2.0	1.8 J	6.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	< 10	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 20	4.3	2.9	5.4	5.6	10.6	< 1.0	0.38 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	2.2	2.0	< 5.0	2.5	1.1	< 1.0	< 1.0	0.29 J	< 1.0	< 1.0
1,2-Dichloroethane			< 20	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	13.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			39.8	989	1330 E	247	241	890	3.0	26.2	1.4	1.3	1.7	< 1.0	2.0	< 1.0	7.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	23.2	14.2	26.3	25.2	11.5	13.4	8.4	7.0	17.0	6.5	10.8
cis-1,2-Dichloroethylene			< 20	4.3	2.3	3.3	< 1.0	8.7	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	1.6	9.0	< 1.0	< 1.0	< 1.0	< 1.0	2.8	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<5.0	<1.0	<1.0	< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			NT	< 25	< 25 R	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	367	< 25	< 50	< 25 K-	< 25	< 100	<630	<130	<130	NT	< 25	< 25 R	< 130	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25
Ethylbenzene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	0.41 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	3.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 20	64.2	5.3 J+	2.5	2.7	6.9 J+	7.9	< 1.0	< 1.0	0.26 J	1.1	< 1.0	4.8	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	37.6	79.9	12.8 J+	9.8	16.5	< 1.0	5.9	0.45 J	< 1.0	0.29 J	0.56 J
Methylene chloride			< 200	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<2.0	<2.0	< 5.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	<5.0	<5.0	< 5.0	< 5.0	< 5.0	8.3 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<10	<2.0	<2.0	NT	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 20	5.7	3.0 J	5.7	5.8	15.6	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			1880	18600	19500	17300	18000	48500	135	268	115	76.1	64.3	71.5	698	79.2	2580	171	85.1	252	162	134	1340	70.9	32.9	285	131	693	1420	120	115	140	110	263 G	202	167
Tetrahydrofuran			NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10	<50	<10	<10	NT	< 10	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 20	1.2	0.72 J	1.1	0.99 J	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	3.4 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			1720	19100	9620 J+	13300	14200	42500 J+	29.5	217	8.5	9.2	10.0	5.9	16.6 J+	7.0	12.2	3.7	2.1	2.3	3.0	1.3	9.1	<1.0	<1.0	490	125	376	867	147 J+	70.5	25.5	22.5	110	29.7	37.5 J+
1,1,2-Trichloroethane			< 20	< 1.0	< 1.0	0.94 J	0.99 J	3.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			898	10000	5530	9090	9660	30600	18.9	70.6	11.0	8.9	8.0	10.1	31.2	8.2	35.6	6.5	4.8	5.9	7.1	5.4	2.2 J	3.60	1.90	60	27.3	170	602	36.0	22.8	20.9	19.7	99.7	31.7	33.4
Vinyl chloride			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 40	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 10	< 1.0	< 1.0	11.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<1.0	<1.0	ND	< 1.0	< 1.0	14.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT
Arsenic																												< 10							
Iron																												< 100							
Manganese																												NT							
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																			
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																										< 10							
Ethane	8015	µg/l																										< 10							
Ethylene	8015	µg/l																										< 10							
Alkalinity	E310.1	µg/l																										104000							
Chloride	E325.3	µg/l																										1310000							
Chlorine, Total Residual	E330.4	µg/l																										NT							
Iron, Ferrous	3500FE B	µg/l																										NT							
Nitrate & Nitrite as N	E353.2	µg/l																										7000							
Nitrogen, Nitrate	E353.2	µg/l																										7000							
Nitrogen, Nitrite	E354.1	µg/l																										< 10							
Sodium	6010C	µg/l																										NT							
Sulfate	E375.4	µg/l																										88000							
Sulfide	E376.1	µg/l																										< 2000							
Surfactants	E425.1	µg/l																										< 100							
Total Organic Carbon	E415.1	µg/l																										< 1000							

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			GEO-2 (cont.)												GEO-3								GEO-4					GEO-5					GEO-6	
Sample Name:			GEO-2 5 to 20 4/13/10 GEI	GEO-2 5 to 20 4/21/11 GEI	GEO-2 5 to 20 5/1/13 GEI	GEO-2 5 to 20 4/30/14 GEI	GEO-2 5 to 20 4/2/15 GEI	GEO-2 5 to 20 4/29/16 GEI	MW901 (FD) 5 to 20 4/29/16 GEI	GEO-2 5 to 20 4/18/17 GEI	GEO-2 5 to 20 4/4/18 GEI	MW901 (FD) 5 to 20 4/4/2018 GEI	GEO-2 5 to 20 4/16/2019 GEI	MW901 5 to 20 4/16/2019 GEI	GEO-3 5 to 20 8/16/04 GeoInsight	GEO-3 5 to 20 5/24/06 GEI	MW900 (FD) 5 to 20 5/24/06 GEI	GEO-3 5 to 20 10/4/06 GEI	MW900 (FD) 5 to 20 10/4/06 GEI	GEO-3 5 to 20 1/16/07 GEI	GEO3 5 to 20 4/13/07 GEI	GEO-4 4 to 19 8/16/04 GeoInsight	GEO-4 4 to 19 5/24/06 GEI	GEO-4 4 to 19 10/4/06 GEI	GEO-4 4 to 19 1/16/07 GEI	GEO4 4 to 19 4/16/07 GEI	GEO-5 5 to 20 8/16/04 GeoInsight	GEO-5 5 to 20 5/24/06 GEI	GEO-5 5 to 20 10/4/06 GEI	GEO-5 5 to 20 1/16/07 GEI	GEO5 5 to 20 4/16/07 GEI	GEO-6 5 to 20 8/16/04 GeoInsight	GEO-6 5 to 20 5/24/06 GEI
Well Screen Interval (ft bgs):																																		
Sample Date:																																		
Collected By:																																		
Analyte	**Method**	**Units**																																
Volatile Organic Compounds (VOCs)																																		
Acetone	8260	µg/l	< 5.0	< 5.0	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<10	<10	< 1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2000	< 5.0	< 5.0	< 100	< 50	< 2000	< 5.0	< 5.0	< 250	< 5.0	< 200	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 100	< 0.50	< 0.50	< 10	< 5.0	< 100	< 0.50	< 0.50	< 25	< 0.50	< 10	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100	< 50	< 1000	< 5.0	< 5.0	< 250	< 5.0	< 100	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 50	< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40	< 20	< 200	< 2.0	< 2.0	< 100	< 2.0	< 20	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.56 J	0.76 J	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	2.5	< 20	< 10	< 100	< 1.0	0.62 J	< 50	< 1.0	< 10	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 100	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 2.0	< 2.0	< 40	< 20	< 200	< 2.0	< 2.0	< 100	< 2.0	< 20	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	11.6	2.6	< 1.0	< 100	2.7	7.1	< 20	< 10	< 100	3.0	9.7	< 50	< 1.0	< 10	2.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0
1,1-Dichloroethylene			13.8	3.7	7.8	3.8	3.1	4.3	4.9	1.5	1.1	1.1	<1.0	<1.0	108	< 1.0	< 1.0	59.3	59.1	11.5	1.4	< 100	6.1	17.8	< 20	< 10	< 100	8.9	32.7	< 50	< 1.0	< 10	4.6
cis-1,2-Dichloroethylene			3.1	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	2.8	2.6	1.2	< 1.0	< 100	6.3	16.7	< 20	5.5 J	< 100	12.5	35.2	< 50	< 1.0	14.8	9.1
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 100	< 2.0	< 2.0	< 40	< 20	< 100	< 2.0	< 2.0	< 100	< 2.0	< 10	< 2.0
1,4-Dioxane			< 25	< 25	< 25	< 25 K-	< 25	< 25	< 25	<130	<130	<130	<130	<130	NT	< 25	< 25	< 25 R	< 25 R	< 25	< 25	NT	< 25	< 25 R	< 5.0	< 250	NT	< 25	< 25 R	< 1300	< 25	NT	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1000	< 5.0	< 5.0	< 100	< 50	< 1000	< 5.0	< 5.0	< 250	< 5.0	< 100	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0
Methyl tert-butyl ether			< 1.0	< 1.0	4.5	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	1.2 J+	1.1 J+	< 1.0	< 1.0	< 100	< 1.0	1.5 J+	< 20	< 10	< 100	1.3	3.3 J+	< 50	< 1.0	< 10	1.3
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5.0	< 2.0	< 2.0	< 5.0	< 2.0	< 5.0	< 2.0	< 1000	< 2.0	< 2.0	< 40	< 20	< 1000	< 2.0	< 2.0	< 100	< 2.0	< 100	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	< 5.0	< 100	< 50	< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 40	< 20	NT	< 2.0	< 2.0	< 100	< 2.0	NT	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0	0.84 J	< 100	< 50	< 100	< 5.0	< 5.0	< 250	< 5.0	< 10	< 5.0
Tetrachloroethylene (PCE)			480	66.4	140	119	76.3	147	145	50.7	48.5	45.4	26.3	25.6	4020	162	157	2720	2340	529	93.2	12900	6690	24100	16700	8240	14400	2440	12900	254 F+	17.9	782	675
Tetrahydrofuran			< 10	< 10	< 10	< 10 G	< 10	< 10	< 10	<10	<10	<10	<10	<10	NT	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 200	< 100	NT	< 10	< 10	< 500	< 10	NT	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	1.8	1.7	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0
1,1,1-Trichloroethane (TCA)			61.9	4.3	16.0	15.5	11.4	18.4	20.4	5.2	3.7	3.6	1.1	1.1	204	4.0	4.4	78.2 J+	77.2 J+	16.2	< 1.0	1170	113	321 J+	113	70.9	646	246	652	< 50	< 1.0	27.8	42.5
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0
Trichloroethylene (TCE)			103	14.7	14.3	12.2	9.9	12.7	12.8	7.1	6.1	6.0	4.4	4.2	507	14.4	14.1	209	207	70.2	10.0	720	86.8	235	129	74.8	404	146	446	< 50	< 1.0	122	78.8
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 1.0	< 1.0	< 20	< 10	< 200	< 1.0	< 1.0	< 50	< 1.0	< 20	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 20	< 10	< 100	< 1.0	< 1.0	< 50	< 1.0	< 10	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND	< 1.0	< 1.0	< 20	< 10	ND	< 1.0	< 1.0	< 50	< 1.0	ND	< 1.0
Metals (Total)	6010B	µg/l							NT			NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic			NT	NT	NT	NT	NT	NT					NT																				
Iron			< 100 J+	< 100	< 100	NT	NT	NT					NT																				
Manganese			< 15	< 15	< 15	< 15	< 15	< 15		<15	<15		<0.15																				
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																		
Others									NT			NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l	1.58	< 0.30	< 0.30	< 10	< 10	< 10		<10	<0.11		0.14																					
Ethane	8015	µg/l	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10		<10	<0.23		<0.23																					
Ethylene	8015	µg/l	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10		<10	<0.31		<0.31																					
Alkalinity	E310.1	µg/l	44100	50400	64600	69000	48400	50300		34000	32800		22.1																					
Chloride	E325.3	µg/l	165000	53700	252000	175000	220000	290000		287000	254000		198																					
Chlorine, Total Residual	E330.4	µg/l	< 50 A	< 50	< 50	< 50 A	< 50 A				1130		<0.10																					
Iron, Ferrous	3500FE B	µg/l	NT	NT	NT	< 100	< 100	< 100		<100	<200		<0.20																					
Nitrate & Nitrite as N	E353.2	µg/l	6700	4400	3300	1700	1600	1500		1700	2300		1.7																					
Nitrogen, Nitrate	E353.2	µg/l	6700	4400	3300	1700	1600	1500		1700	2300		1.7																					
Nitrogen, Nitrite	E354.1	µg/l	< 10	< 10	< 10	< 10	< 10	< 10		<10	<10		<0.010																					
Sodium	6010C	µg/l	NT	NT	NT	NT	NT	NT		NT	NT		NT																					
Sulfate	E375.4	µg/l	117000	105000	67800	38900	27500	30900		21600	19000		15.9																					
Sulfide	E376.1	µg/l	< 2000	< 2000	< 2000	< 2000	< 2000				<2000		<2.0																					
Surfactants	E425.1	µg/l	< 100	< 100	< 100	< 100	< 100	< 100		<100	<100		<0.10																					
Total Organic Carbon	E415.1	µg/l	2400	4600	1700	1000	<5000	< 1000		<1000	1000		<1.0																					

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			GEO-6 (cont.)					MW-1					MW101									MW102								MW103						MW104	
Sample Name:			GEO-6	GEO-6	MW900 (FD)	GEO6	MW901 (FD)	MW-1	MW-1	MW-1	MW-1	MW1	MW-101	MW101	MW101	MW101	MW900	MW-102	MW102	MW-102	MW102	MW102	MW102	MW102	MW102	MW-103	MW103	MW103	MW-103	MW103	MW103	MW-104	MW104
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	Unknown	Unknown	Unknown	Unknown	Unknown	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	6 to 16	5 to 15	5 to 15
Sample Date:			10/4/06	1/16/07	1/16/07	4/16/07	4/16/07	7/1/02	8/9/04	5/23/06	1/17/07	4/17/07	5/24/06	10/5/06	1/17/07	4/13/07	4/13/07	5/24/06	10/5/06	1/16/07	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08	5/24/06	8/7/06	10/5/06	1/16/07	1/18/07	4/13/07	5/23/06	10/5/06
Collected By:			GEI	GEI	GEI	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																															
Volatile Organic Compounds (VOCs)																																	
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 40000	40.0	36.1	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 5.00	< 2000	2.0	< 0.50	< 250	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	0.60
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 4000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0
Carbon disulfide			< 5.0	0.81 J	< 5.0	< 10	< 5.0	< 5.000	< 10000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	19.0	22.4	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	1.1	1.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 10000	< 4000	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	2.7	10.3
Chloroform			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	3.7	1.6	< 500	1.8	< 1.0	< 1.0	< 1.0	1.8	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	0.65 J	0.62 J	< 5.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 25000	< 4000	< 2.0	14.6	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 25000	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0
1,1-Dichloroethane			4.4	1.7	1.6	0.92 J	1.1	< 7500	< 2000	59.8	59.9	< 500	< 1.0	< 1.0	< 1.0	< 1.0	1.6	< 1.0	0.88 J	< 1.0	< 1.0	0.42 J	2.1	4.1	0.51 J	27.2	3.7	13.0	11.5	10.1	7.9	33.0	98.9
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	4.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	3.9 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0
1,1-Dichloroethylene			11.0	4.4	3.2	2.8	3.8	< 5.00	< 2000	11500	1260	2290	8.7	21.1	14.1	< 1.0	4.6 G	6.3	50.2	30	< 1.0	23.6	39.7	51.8	22.2 C+	13.4	2.0	6.5	4.3	4.3	8.0	3.3	9.4
cis-1,2-Dichloroethylene			15.4	7.7	6.9	5.3	6.3	< 5.00	< 2000	24.3	7.7	< 500	< 1.0	< 1.0	1.3	< 1.0	2.1 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	3.0	2.5	< 1.0	< 1.0	< 5.0	198	435
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	< 1.0	< 1.0	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	2.2	9.3
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 18000	< 2000	4.5	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0
1,4-Dioxane			< 25 R	< 25	< 25	< 5.0	< 25	NT	NT	< 25 R	< 25	< 13000	< 25	< 25 R	< 25	< 25	< 25	< 25	< 25 R	< 25	< 25	NT	< 50	< 25	< 25	< 25	< 25 R	< 25	< 25	< 130	< 25	< 25 R
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	2.8	4.4	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 20000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.00	< 2000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0
Methyl tert-butyl ether			1.9 J+	1.2	1.2	0.80 J	0.81 J	< 10000	< 2000	< 1.0 J+	< 1.0	< 500	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	4.5 J+	2.7	< 1.0	NT	17.3	24.2	1.7 C+	< 1.0	< 1.0	0.65 J J+	< 1.0	< 1.0	< 5.0	< 1.0	10.0 J+
Methylene chloride			< 2.0	< 2.0	1.3 J	2.5 J	< 2.0	< 5.000	< 20000	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	4.3	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.000	< 2000	< 5.0	2.4 J	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	NT	NT	< 2.0	< 2.0	< 1000	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.00	< 2000	38.1	22.8	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0	< 25	< 5.0	< 5.0
Tetrachloroethylene (PCE)			1980	632	594 F+	618	497	52000	24200	34400	74900	49600	163	171	192	94.0	90.7	200	898	692	20.3	524	685	606	438 C+	2600	592	1510	1200 F+	1250 F-	1510	60.4	160
Tetrahydrofuran			< 10	< 10	< 10	< 20	< 10	NT	NT	< 10	< 10	< 5000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	19.6	15.3	< 500	< 1.0	< 1.0	0.38 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			77.2 J+	33.7	25.3	21.2	26.8	290000	112000	255000	135000	151000	110	146	131	50.5 J+	43.0 J+	< 1.0	65.7 J+	32.6	< 1.0	26.3	69.8	121	21.9 C+	34.0	4.4	14.4 J+	17.6	21.0	< 5.0	21.0	138 J+
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 7500	< 2000	85.8	16.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0
Trichloroethylene (TCE)			131	75.3	56.5	55.5	70.5	220000	128000	175000	120000	103000	50.5	30.2	38.4	47.2	45.7	15.6	89.1	57.0	2.0	46.1	61.0	65.3	35.6 C+	109	24.0	60.4	37.0	38.0	58.7	63.4	110
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 10000	< 2000	< 1.0	1.2	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	23.7	36.4
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 4000	4.8	5.9	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 5.00	< 2000	9.2	13.8	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	ND	ND	14.0	19.7	< 500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT
Arsenic				< 10	< 10																									< 10			
Iron				< 100	< 100																									< 100			
Manganese				NT	NT																									NT			
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																	
Others			NT			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT
Methane	8015	µg/l		< 10	< 10																									< 10			
Ethane	8015	µg/l		< 10	< 10																									< 10			
Ethylene	8015	µg/l		< 10	< 10																									< 10			
Alkalinity	E310.1	µg/l		134000	133000																									53500			
Chloride	E325.3	µg/l		825000	825000																									675000			
Chlorine, Total Residual	E330.4	µg/l		NT	NT																									NT			
Iron, Ferrous	3500FE B	µg/l		NT	NT																									NT			
Nitrate & Nitrite as N	E353.2	µg/l		3500	3500																									8900			
Nitrogen, Nitrate	E353.2	µg/l		3500	3500																									8900			
Nitrogen, Nitrite	E354.1	µg/l		< 10	< 10																									16			
Sodium	6010C	µg/l		NT	NT																									NT			
Sulfate	E375.4	µg/l		45800	45500																									65700			
Sulfide	E376.1	µg/l		< 2000	< 2000																									< 2000			
Surfactants	E425.1	µg/l		< 100	< 100																									< 100			
Total Organic Carbon	E415.1	µg/l		< 1000	< 1000																									1700			

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW104 (cont.)																					MW105											
Sample Name:			MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW104	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105	MW105
Well Screen Interval (ft bgs):			6 to 16	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29
Sample Date:			1/16/07	4/13/07	7/19/07	10/15/07	1/11/08	4/15/08	7/15/08	10/21/08	1/14/09	4/14/09	7/15/09	10/14/09	4/12/10	4/21/11	4/17/12	4/24/13	4/30/14	4/2/15	4/29/16	4/17/17	4/28/17	4/4/18	5/24/06	10/5/06	1/17/07	4/16/07	7/19/07	10/10/07	1/9/08	4/18/08	7/14/08	10/22/08	1/12/09	4/13/09
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																				NT													
Volatile Organic Compounds (VOCs)																																			
Acetone	8260	µg/l	< 5.0	< 5.0	NT	< 5.0	< 5.0	4.0 J	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	9.0	4.8	< 10	< 10	< 10	< 10		<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Benzene			< 0.50	< 0.50	NT	0.43 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	NT	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			6.1	4.7	6.9	5.6	2.3	< 2.0	3.9	5.9	< 2.0	< 2.0	2.8	4.2	< 2.0	< 2.0	2.6	1.9 J	< 2.0	< 2.0	< 2.0		<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			57.1	46.8	68.3	86.6	38.7	33.0	71.5	74.3	33.2	37.9	47.1	73.9	19.6	24.3	< 1.0	28.4	27.1	9.7	38.1		21.1	25.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			2.9	10	2.6	4.5	1.7	1.8	5.1	2.4	2.6	2.1	2.2	3.6	1.9	6.1	1.1	1.9	0.95 J	0.40 J	1.40		0.64 J	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			244	250	194	279	148	145	203	192 F-	189	236 F-	212	334	112	154	67.3	93.6	95.2	49.8	77.3		83.9	67.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			6.2	3.6	2.5	4.1	3.5	2.0	3.2	2.7	2.4	3.0	2.6	2.6	1.1	6.4	< 1.0	3.1	2.3	0.64 J	1.1		1.5	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25 F- K-	< 50	< 25 K-	< 25	< 25		<130	<130	< 25	< 25 R	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			1.0	0.93 J J+	NT	7.2	1.1	0.72 J	3.9	2.4	0.63 J	< 1.0	0.98 J	1.8	< 1.0	< 1.0	0.90 J	< 1.0	< 1.0	< 1.0	0.61 J		<1.0	<1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0		<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			29.3	39.6	31.2	49.3	12.1	22.4	16.8	22.8	22.6	19.3	22.0	16.9	14	14.8	11.9	9.7	10.1	10.7	6.5		15.1	10.7	7.8	0.69 J	0.67 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 G	< 10	< 10		<10	<10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			23.2	5.6 J+	28.0	89.8	12.5	10.8	42.9	26.1	13.3	11.8 F+	19.2	24.3 J+	4.4	5.1	11.4	4.3	5.1	2.8	8.6		4.1	3.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			49.1	51.4	40.4	< 1.0	27.0	34.9	37.1	38.2	44.8	53.7 F+	44.4	43.7	24.3	26.4	13.9	14.1	16.3	15.6	12.4		21.3	15	< 1.0	3.4	3.2	1.5	1.5	1.6	2.2	1.7	1.7	1.8	1.7	2.3
Vinyl chloride			47.4	40.4	38.2	68.0	26.4	29.9	41.8 F+	42.6	50.1	66.5	57.0	107.0	34.9	53.9	39.3	28.9	51.7	11.8	16.1		9.6	16.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic															NT	NT	NT	NT	NT	NT	NT	NT		NT													
Iron															2900 J+	11800	10700	15300	8970	NT	NT	NT		NT													
Manganese															1510	3000	2590	2860	1570	154	2440	1150		1950												
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																			9890																	
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT								NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l													159	184	724	252	185	<10	20.2	29.9		54.8												
Ethane	8015	µg/l													1.77	2.0	5.4	3.6	3.2 J	<10	< 10	<10		2												
Ethylene	8015	µg/l													0.87	1.1	11.6	4.92	3.8 J	<10	2.3 J	<10		1.6												
Alkalinity	E310.1	µg/l													338000	373000	464000	413000	393000	298000	319000	429000		336000												
Chloride	E325.3	µg/l													32500	189000	100000	247000	82500	74500	125000	33700		145000												
Chlorine, Total Residual	E330.4	µg/l													< 50 A	< 50	< 50 R	< 50 A F-	< 50 A	< 50 A				1700												
Iron, Ferrous	3500FE B	µg/l													NT	NT	NT	NT	4800	<100	4600	1200		2400												
Nitrate & Nitrite as N	E353.2	µg/l													120	320	200	280	150	390	< 110	<110		2600												
Nitrogen, Nitrate	E353.2	µg/l													120	320	200	280	150	390	< 100	<100		2600												
Nitrogen, Nitrite	E354.1	µg/l													< 10	< 10	< 10	< 10	< 10	<10	< 10	<10		<10												
Sodium	6010C	µg/l													NT	NT	NT	NT	46400	NT	NT	NT		NT												
Sulfate	E375.4	µg/l													41700	45300	29300	52400	104000	62800	232000	113000		139000												
Sulfide	E376.1	µg/l													< 2000	< 2000	< 2000	< 2000	< 2000	< 2000				<2000												
Surfactants	E425.1	µg/l													< 100	120	190	< 100	< 100	<100	110	<100		130												
Total Organic Carbon	E415.1	µg/l													5900	7400	9800	8500	7500	7000	8600	6600		8200												

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW105 (cont.)						MW106						MW107						MW108						MW109			MW110			MW111		
Sample Name:			MW105	MW105	MW105	MW105	MW105	MW105	MW106	MW106	MW106	MW106	MW106	MW106	MW107	MW107	MW107	MW107	MW107	MW107	MW108	MW108	MW108	MW108	MW108	MW108	MW109	MW109	MW109	MW110	MW110	MW110	MW111	MW111	MW111
Well Screen Interval (ft bgs):			19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	19 to 29	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	9 to 19	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	3 to 13	4 to 14	4 to 14	4 to 14
Sample Date:			7/14/09	10/14/09	4/12/10	4/20/11	4/17/12	4/23/13	1/18/07	4/13/07	7/19/07	10/10/07	1/10/08	4/17/08	1/18/07	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08	1/18/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	1/18/07	4/16/07	4/17/08	1/18/07	4/17/07	5/23/07	1/18/07	4/16/07	7/18/07
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																	
Volatile Organic Compounds (VOCs)																																			
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	69.9	< 5.0	9.2	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 5.0	< 13	NT
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	7.7	< 5.0	1.1 J	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.28 J	< 1.0	NT	< 10	< 25	NT
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	1.2	NT	0.56 J	0.39 J	1.7	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	2.5	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.6	4.3	0.52 J	< 1.0	2.1	3.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	NT	30.9	15.7 J	16.8
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	0.43 J
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.4	6.3	3.4	3.9	4.1	1.5	3.2	3.7	< 1.0	< 1.0	1.3 G	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	17.6	< 25	10.5
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	22.6	17.2 J	56.3
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	1.5
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25 K-	< 50	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	NT	< 250	< 630	NT
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	12.2	12.1	NT	252	78.0	4.9	< 1.0	< 1.0	NT	< 1.0	0.21 J	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	3.5	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	31.4 J	NT
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	2.2	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 20	< 50	NT
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 50	< 130	NT
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	1.0 F-	1.2	2.3	1.7	2.3	0.44 J	< 1.0 F-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 F-	< 1.0	< 1.0	0.60 J	< 1.0	< 1.0	178 F-	28.5	17.4	0.89 J F-	0.93 J	NT	13700 F-	7370	6340
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 100	< 250	NT
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	110	0.40 J	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	15.3	1.5 J+	6.4	11.3	14.9	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.77 J	0.97 J	0.31 J	< 1.0	< 1.0	NT	142	56.5	89.1
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0
Trichloroethylene (TCE)			1.6	0.78 J	1.1	1.8	1.7	1.6	3.7	4.8	3.6	4.4	4.9	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.5	< 1.0	0.52 J	< 1.0	< 1.0	NT	150	84.4	120
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 10	< 25	NT
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT
Arsenic									< 10						< 10						< 10									2.9					
Iron									319						6160						< 100									84000					
Manganese									NT						NT						NT									NT					
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																			
Others			NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT		NT		NT	NT	NT
Methane	8015	µg/l							< 10						4.13 J						0.18 J									< 10		NT			
Ethane	8015	µg/l							< 10						< 10						< 10									< 10		NT			
Ethylene	8015	µg/l							< 10						< 10						< 10									< 10		NT			
Alkalinity	E310.1	µg/l							83100						174000						71100									122000		NT			
Chloride	E325.3	µg/l							1870000						100000						235000									142000		1010000			
Chlorine, Total Residual	E330.4	µg/l							NT						NT						NT									NT		< 50			
Iron, Ferrous	3500FE B	µg/l							NT						NT						NT									NT		NT			
Nitrate & Nitrite as N	E353.2	µg/l							12900						100						< 100									2400		NT			
Nitrogen, Nitrate	E353.2	µg/l							12800						< 110						< 110									2300		NT			
Nitrogen, Nitrite	E354.1	µg/l							83						< 10						< 10									54		NT			
Sodium	6010C	µg/l							NT						NT						NT									NT		NT			
Sulfate	E375.4	µg/l							86800						33400						28100									47700		NT			
Sulfide	E376.1	µg/l							< 2000						< 2000						< 2000									< 2000		NT			
Surfactants	E425.1	µg/l							< 100						150						< 100									< 100		NT			
Total Organic Carbon	E415.1	µg/l							1300						12200						1300									5700		NT			

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW111 (cont.)			MW112A													MW112A (cont.)												
Sample Name:			MW111	MW111	MW111	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW901 (FD)	MW112A	MW901 (FD)	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW900 (FD)	MW112A	MW112A	MW112A	MW112A	MW900 (FD)
Well Screen Interval (ft bgs):			4 to 14	4 to 14	4 to 14	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19	4 to 19
Sample Date:			10/10/07	1/10/08	4/17/08	3/23/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09	10/14/09	10/14/09	4/12/10	4/12/10	10/27/10	4/20/11	4/20/11	11/16/11	4/16/12	4/16/12	11/12/12	4/24/13	4/24/13
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																													
Volatile Organic Compounds (VOCs)																															
Acetone	8260	µg/l	< 250	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0 F+	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+	< 5.0	< 10	< 10	< 5.0	< 5.0 K-	< 5.0 K-	< 10 K-	< 20	< 20
Benzene			< 25	< 0.50	< 1.0	< 0.50	< 0.50	NT	< 0.50	0.34 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.26 J	0.27 J	0.36 J	0.28 J	< 0.50 F-	< 0.50 F-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0	< 1.0
Bromodichloromethane			< 50	< 1.0	< 2.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
2-Butanone (MEK)			< 250	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10 K-	< 10	< 10
Carbon disulfide			< 250	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10
Carbon tetrachloride			< 50	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Chlorobenzene			< 50	< 1.0	< 2.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Chloroethane			< 100	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0
Chloroform			< 50	1.2	< 2.0	0.35 J	< 1.0	NT	< 1.0	0.32 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.23 J	0.24 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Chloromethane			< 100	< 2.0	< 4.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0
1,4-Dichlorobenzene			< 50	< 1.0	< 2.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
1,1-Dichloroethane			19.1 J	5.6	4.3 C+	27.6	24.0	6.4	35.6	114	40.9 C+	31.5	31.2	43.7	44.6	70.9	70.7	109	89.6	99.3	107	137	142	83.8	88.3	85.5	38.1	38.8	39.5	71.5	69.0	48.1	24.2	37.0
1,2-Dichloroethane			< 50	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
1,1-Dichloroethylene			< 50	4.1	3.7 C+	19.7	10.8	6.7	19.7	82.4	36.6 C+	24.5	24.5	39.1	39.3	61.7	61.7	89.2	73.0	91.4	97.7	123	130	74.9	78.6	89.1	57.9	53.0	47.6	86.4	76.2	57.3	30.2	30.0
cis-1,2-Dichloroethylene			63.9	10.6	4.4 C+	< 1.0	0.54 J	0.98 J	4.2	18.7	55.3 C+	81.5	80.9	214	212	225	224	296	247	311	380	390	373	165	196	214	143	140	169	178	185	150	145	112
trans-1,2-Dichloroethylene			< 50	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.9 G	2.5 G	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.9	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	2.9	< 1.0
1,2-Dichloropropane			< 100	< 2.0	< 4.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0
1,4-Dioxane			< 1300	< 25	< 50	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 50	< 50	< 50
Ethylbenzene			< 50	< 1.0	< 2.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
2-Hexanone			< 250	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10
4-Isopropyltoluene			< 250	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10
Methyl tert-butyl ether			< 50	0.45 J	< 2.0	10.8	13.8	NT	20.3	87.0	20.5 C+	14.9	13.5	32.4	32.2	33.3	32.9	29.9	23.3	41.4	46.0	77.5	81.4	15.9	20.3	50.3	9.2	9.1	22.3	27.1	26.2	28.8	19.0	14.1
Methylene chloride			< 100	< 2.0	< 4.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0
Naphthalene			< 250	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10
Tert-amyl methyl ether			< 100	< 2.0	< 4.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 4.0
1,1,1,2-Tetrachloroethane			< 250	< 5.0	< 10	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10
Tetrachloroethylene (PCE)			8350	3100	1160 C+	261	198	144	159	359	202 C+	165	164	226	228	287	290	290 G	384	359	360	393	405	481	477	561	415	409	363	569 R	604	546	339	581
Tetrahydrofuran			< 500	< 10	< 20	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10 F+	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 20 F- K-	< 20	< 20
Toluene			< 50	< 1.0	< 2.0	0.54 J	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
1,1,1-Trichloroethane (TCA)			84.1	41.3	17.6 C+	1.3	0.96 J	0.68 J	1.4	5.8	1.9 C+	1.3	1.2	5.6	5.7	3.3	3.2	3.9	3.1	3.8	4.0	4.2 J+	4.4 J+	3.4	3.4	4.3	7.5	< 2.0	3.3	5.3	4.8	4.1	4.3	6.5
1,1,2-Trichloroethane			< 50	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Trichloroethylene (TCE)			125	42.1	19.9 C+	34.0	36.1	26.7	61.3	142	72.8 C+	46.1	44.3	54.9	55.9	88.2	87.9	140	114	137	139	194	198.0	173	179	181	110	108	95.0	171	157	138	87.0	140
Vinyl chloride			< 50	< 1.0	< 2.0	0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.42 J	0.43 J	< 1.0	< 1.0	1.2	1.3	1.0	1.5	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	4.4
m,p-Xylene			< 50	< 1.0	< 2.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
o-Xylene			< 50	< 1.0	< 2.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Total Xylene			< 50	< 1.0	< 2.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																			
Iron																								< 0.10 J+				NT				< 100			
Manganese																								875				1570				954			
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																			
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																						0.18 J B				< 0.30				0.66			0.10 J	
Ethane	8015	µg/l																						< 0.10				< 0.10				< 0.10			< 0.10	
Ethylene	8015	µg/l																						< 0.10				< 0.10				< 0.10			< 0.10	
Alkalinity	E310.1	µg/l																						233000				252000				245000			278000	
Chloride	E325.3	µg/l																						810000				915000				655000			857000	
Chlorine, Total Residual	E330.4	µg/l																						< 50 A				< 50				< 50 A			< 50 A F- J	
Iron, Ferrous	3500FE B	µg/l																						NT				NT				NT			NT	
Nitrate & Nitrite as N	E353.2	µg/l																						4700				3500				2600			1300	
Nitrogen, Nitrate	E353.2	µg/l																						4700				3500				2600			1300	
Nitrogen, Nitrite	E354.1	µg/l																						11				< 10				< 10			< 10	
Sodium	6010C	µg/l																						NT				NT				NT			NT	
Sulfate	E375.4	µg/l																						57100				52200				66100			68000	
Sulfide	E376.1	µg/l																						< 2000				< 2000				< 2000			< 2000	
Surfactants	E425.1	µg/l																						< 100				< 100				< 100			< 100	
Total Organic Carbon	E415.1	µg/l																						1200				1100				< 1000			1500	

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

			MW112A (cont.)												MW113										MW114						MW115					
Sample Location:																																				
Sample Name:			MW112A 4 to 19	MW112A 4 to 19	MW112A 4 to 19	MW112A 4 to 19	MW900 (FD) 4 to 19	MW112A 4 to 19	MW112A 4 to 19	MW112A 4 to 19	MW901 (FD) 4 to 19	MW112A 4 to 19	MW112A 4 to 19	MW112A 4 to 19	MW112A 4 to 19	MW113 10 to 20	MW113 10 to 20	MW113 10 to 20	MW900 (FD) 10 to 20	MW113 10 to 20	MW900 (FD) 10 to 20	MW113 10 to 20	MW900 (FD) 10 to 20	MW113 10 to 20	MW900 (FD) 10 to 20	MW114 7 to 17	MW114 7 to 17	MW114 7 to 17	MW114 7 to 17	MW114 7 to 17	MW114 7 to 17	MW115 10 to 25	MW115 10 to 25	MW115 R 10 to 25	MW115 10 to 25	MW115 10 to 25	MW115 R 10 to 25
Well Screen Interval (ft bgs):																																				
Sample Date:			11/18/13	6/11/14	11/18/14	4/17/15	4/17/15	4/28/16	11/21/16	4/18/17	4/18/2017	########	4/4/2018	########	4/15/2019	2/20/07	4/12/07	7/18/07	7/18/07	10/10/07	10/10/07	1/11/08	1/11/08	4/15/08	4/15/08	2/20/07	4/13/07	7/18/07	10/10/07	1/11/08	4/17/08	3/23/07	4/13/07	7/18/07	10/10/07	1/9/08	4/17/08
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																		
Volatile Organic Compounds (VOCs)																																				
Acetone	8260	µg/l	< 10 K-	< 10 K-	< 10	< 10	< 10	< 10	< 10	<10	<10	< 20	<25	<25	<25	< 5.0	3.8 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	2.1 J	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.43 J	0.23 J	0.23 J	< 1.0	<1.3	<1.3	<1.3	< 0.50	< 0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<10	<10	<20	<25	<25	<25	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	< 5.0	0.66 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			73.5	18.3	64.1 G K-	23.2	25.2	14.1	77	34.1	30.1	88.1	25.3	25.3	38.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			86.5	38.5	109 K+	39	42.9	21.5	132	47.7	43.0	92.5	33.0	33.0	57.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	0.33 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			209	150	321	71.1	84.1	108	230	78.2	71.8	155	98.5	98.5	60.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25	< 25	< 50	<130	<130	< 250	<310	<310	<310	< 25	< 25	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25 J+	< 25	NT	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<5.0	<5.0	< 10	<13	<13	<13	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			64.6	4.6	47.3 K+	11.9	13.9	3.9	53.9	11.6	11.4	56	19.1	19.1	25.9	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	< 10	<13	<13	<13	< 5.0	1.2 J	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 4.0	<5.0	<5.0	<5.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			371	266	398	303	300	258	508	435	404	908	317	317	555	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.84 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	< 20	<25	<25	<25	< 10	< 10	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	NT	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	0.44 J	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.34 J	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			8.0	1.5	3.6	1.3	1.4	1.7	6.5	4.1	3.6	11.4	3.6	3.6	5.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			146	82.0	117	71	73	61.3	220.0	118.0	107	247	92.3	92.3	136	< 1.0	0.82 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Vinyl chloride			0.90 J	< 1.0	0.77 J G K-	< 1.0	< 1.0	< 1.0	1.3	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 2.0	<2.5	<2.5	<2.5	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT		NT		NT		NT		NT	NT				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic				NT		NT		NT		NT			NT	NT	NT																						
Iron				NT		NT		NT		NT			NT	NT	NT																						
Manganese				1470		909		1530		627			2620	2620	3360																						
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron															NT																						
Others			NT		NT		NT		NT		NT	NT				NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l		< 10		< 10		< 10		<10			320	320	6.7																						
Ethane	8015	µg/l		< 10		< 10		< 10		<10			12.2	12.2	<0.23																						
Ethylene	8015	µg/l		< 10		< 10		< 10		<10			<0.31	<0.31	<0.31																						
Alkalinity	E310.1	µg/l		285000		266000		332000		339000			247000	247000	259																						
Chloride	E325.3	µg/l		815000		700000		700000		439000			170000	170000	517																						
Chlorine, Total Residual	E330.4	µg/l		< 50 A									280	280	<0.10																						
Iron, Ferrous	3500FE B	µg/l		< 100		< 100		< 100		<100			<200	<200	<0.20																						
Nitrate & Nitrite as N	E353.2	µg/l		650		1200		490		620			<100	<100	0.49																						
Nitrogen, Nitrate	E353.2	µg/l		650		1200		490		620			<110	<110	0.48																						
Nitrogen, Nitrite	E354.1	µg/l		< 10		< 10		< 10		<10			<10	<10	<0.010																						
Sodium	6010C	µg/l		NT		NT		NT		NT			NT	NT	NT																						
Sulfate	E375.4	µg/l		90900		63100		117000		71000			59200	59200	55.1																						
Sulfide	E376.1	µg/l		< 2000									<200	<200	<2.0																						
Surfactants	E425.1	µg/l		< 100		< 100		< 100		<100			<100	<100	<0.10																						
Total Organic Carbon	E415.1	µg/l		< 1000		< 5000		< 1000		<1000			1700	1700	<1.0																						

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW116																														
Sample Name:			MW116 5 to 15 3/23/07	MW116 5 to 15 4/16/07	MW116 5 to 15 7/18/07	MW901 (FD) 5 to 15 7/18/07	MW116 5 to 15 10/12/07	MW901 (FD) 5 to 15 10/12/07	MW116 5 to 15 1/11/08	MW901 (FD) 5 to 15 1/11/08	MW116 5 to 15 4/15/08	MW901 (FD) 5 to 15 4/15/08	MW116 5 to 15 7/16/08	MW116 5 to 15 10/21/08	MW116 5 to 15 1/14/09	MW116 5 to 15 4/15/09	MW116 5 to 15 7/14/09	MW116 5 to 15 10/14/09	MW116 5 to 15 4/13/10	MW901 (FD) 5 to 15 4/13/10	MW116 5 to 15 4/21/11	MW901 (FD) 5 to 15 4/21/11	MW116 5 to 15 4/17/12	MW901 (FD) 5 to 15 4/17/12	MW116 5 to 15 4/24/13	MW901 (FD) 5 to 15 4/24/13	MW116 5 to 15 5/1/14	MW900 (FD) 5 to 15 5/1/14	MW116 5 to 15 4/2/15	MW900 (FD) 5 to 15 4/2/15	MW116 5 to 15 4/29/16	MW900 (FD) 5 to 15 4/29/16	MW116 5 to 15 4/17/17
Well Screen Interval (ft bgs):																																	
Sample Date:																																	
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																															
Volatile Organic Compounds (VOCs)																																	
Acetone	8260	µg/l	< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10 F+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 10	<10
Benzene			0.24 J	< 0.50	NT	NT	< 1.0	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	<0.50
Bromodichloromethane			< 1.0	< 1.0	NT	NT	1.1 J	0.99 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<10
Carbon disulfide			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	2.9 J	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
Chloroethane			< 2.0	< 2.0	2.4	2.3	2.4 J	2.4 J	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0
Chloroform			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
Chloromethane			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0
1,4-Dichlorobenzene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0 J+	< 2.0 J+	< 2.0	< 5.0	< 1.0	1.6	1.0	0.82 J	0.77 J	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
1,1-Dichloroethane			135	4.4	97.3	96.9	80.1	79.3	18.9	15.6	66.8	64.5	114	109	72.5	101	69.7	92.2	63.9	68.9	27.8	23.4	52.8	51.8	31.5	25.8	38.5	41.9	52.0	49.9	38.3	45.0	49.4
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	0.23 J	0.20 J	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
1,1-Dichloroethylene			107	2.7	33.8	34.0	24.8	22.4	14.7	11.8	46.3	45.7	78.4	79.8	56.5	70.6	35.2	68.8	49.1	51.9	22.4	14.1	43.3	42.3	26.7	39.4	46.1	50.3	52.4	50.8	27.7	36.4	35.1
cis-1,2-Dichloroethylene			103	21.7	415	431	346	341	49.5	42.9	105	102	286	319	146	84.1	92.7	133	80.7	92.1	84.6	68.3	115	112	94.8	144	107	116	114	111	50.6	59	67.5
trans-1,2-Dichloroethylene			1.8	< 1.0	4.3	4.4	2.5	2.4	0.88 J	1.3	< 1.0	< 1.0	< 2.0	1.3	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	1.6	1.6	1.8	< 1.0	< 1.0	< 2.0	1.1	< 2.0	< 2.0	1.1 J	<2.0	< 2.0	< 1.0	0.42 J
1,2-Dichloropropane			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<1.0
1,4-Dioxane			< 25	< 25	NT	NT	< 50	< 50	< 25	< 25	< 25	< 25	< 50	< 25	< 50	< 25	< 50 F-	< 50	< 130	< 25	< 25	< 25	< 25 K-	< 25 K-	< 100	< 50	< 50	< 50	< 50	< 50	< 50	< 50	<130
Ethylbenzene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
2-Hexanone			< 5.0	< 5.0	NT	NT	< 10 J+	< 10 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 5.0 J+	< 10 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<2.0
Methyl tert-butyl ether			12.3	0.40 J	NT	NT	12.5	12.7	2.1 J+	1.3 J+	7.1	6.9	18.2	18.0	9.0	11.7	7.2	8.4	5.4	5.9	4.4	4.4	3.4	3.3	14.1	10.6 K-	4.4	4.8	5.0	4.9	< 2.0	0.79 J	1.6
Methylene chloride			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<2.0
Naphthalene			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	0.68 J	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0 J+	< 10 J+	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 10	< 10	< 10	< 10	< 5.0	<5.0
Tert-amyl methyl ether			< 2.0	< 2.0	NT	NT	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 4.0	< 2.0	< 4.0	< 4.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0 K-	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	<2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	NT	NT	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 10	< 5.0	< 10	< 10	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	<1.0
Tetrachloroethylene (PCE)			1180	32.2	167	168	116	110	267	257 J+	603	607	864	839	795	796 G	1020	1010	860	933	323	166	774	778	527	396	618	670	726	695	450	436	482
Tetrahydrofuran			30.6	13.8	NT	NT	< 20	< 20	< 10	< 10	< 10	< 10	< 20	< 10	< 20	< 10	< 20 F+	< 20	< 50	< 10	< 10	< 10	< 10	< 10	< 20	< 10	13.3 J	15.7 J	<20	<20	<20	< 10	<10
Toluene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
1,1,1-Trichloroethane (TCA)			21.6	0.67 J	10.6	10.7	9.4	9.2	3.3	2.5	10.7	10.7	16.0	15.6	12.8	16.6	8.5	14.3 J+	8.2	10.2	4.2	3.8	8.0	8.3	6.0	3.0	6.7	7.3	8.0	7.6	3.8	4.4	3.8
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
Trichloroethylene (TCE)			358	19.4	72.7	73.2	136	129	66.3	53.6	175	174	257	269	229	341	196	267	195	212	88.7	57.7	181	182	126	95.4	164	182	188	183	113	139	131
Vinyl chloride			14.1	3.2	185	182	84.9	76.4	3.1	2.3	2.6	2.7	7.2	21.3	13.9	6.3	6.1	6.9	5.7	6.1	13.5	9.0	8.8 K+	8.8 K+	3.8	< 1.0	1.8 J	2.2	3.8	3.8	< 2.0	< 1.0	1.6
m,p-Xylene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
o-Xylene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
Total Xylene			< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 1.0	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																	
Iron																																	
Manganese																																	
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																	
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																															
Ethane	8015	µg/l																															
Ethylene	8015	µg/l																															
Alkalinity	E310.1	µg/l																															
Chloride	E325.3	µg/l																															
Chlorine, Total Residual	E330.4	µg/l																															
Iron, Ferrous	3500FE B	µg/l																															
Nitrate & Nitrite as N	E353.2	µg/l																															
Nitrogen, Nitrate	E353.2	µg/l																															
Nitrogen, Nitrite	E354.1	µg/l																															
Sodium	6010C	µg/l																															
Sulfate	E375.4	µg/l																															
Sulfide	E376.1	µg/l																															
Surfactants	E425.1	µg/l																															
Total Organic Carbon	E415.1	µg/l																															

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW116 (cont.)					MW117D																			MW117S							
Sample Name:			MW900 (FD)	MW116	MW900 (FD)	MW116	MW900 (FD)	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117D	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S
Well Screen Interval (ft bgs):			5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	60 to 70	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			4/17/17	4/4/18	4/4/18	4/16/19	4/16/19	7/19/07	10/11/07	1/15/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/14/09	4/13/10	4/20/11	4/16/12	4/24/13	5/1/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	7/18/07	10/15/07	1/11/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																
Volatile Organic Compounds (VOCs)																																		
Acetone	8260	µg/l	<10	<10	<10	<10	<10	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Benzene			<0.50	<0.50	<0.50	<0.50	<0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.5	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			<10	<10	<10	<10	<10	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	6.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			<1.0	<1.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0	0.43 J	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			49.8	44.1	46.2	22.7	53.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			34.4	19.7	20.9	9.4	31.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			67.2	42.6	44.2	27.3	112	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			0.45 J	1.1	1.2	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			<130	<130	<130	<130	<130	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	<130	<130	<130	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+
Ethylbenzene			<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			1.6	1.1	1.2	<1.0	3.5	NT	1.6	2.3	1.5	< 1.0	1.5	0.96 J	0.86 J	1.3	1.5	1.2	< 1.0	< 1.0	6.8	< 1.0	< 1.0	0.66 J	1.3	<1.0	1.4	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			<5.0	<5.0	<5.0	<5.0	<5.0	NT	< 5.0	4.9 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			<2.0	<2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			456	233	253	129	404	0.54 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			<10	<10	<10	<10	<10	NT	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+
Toluene			<1.0	<1.0	<1.0	<1.0	<1.0	NT	0.98 J	< 1.0	0.34 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			3.7	1.8	2.0	1.0	2.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			129	83.3	86.3	37.0	157	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			1.4	<1.0	<1.0	<1.0	20.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																			
Iron																																			
Manganese																																			
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																			
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																	
Ethane	8015	µg/l																																	
Ethylene	8015	µg/l																																	
Alkalinity	E310.1	µg/l																																	
Chloride	E325.3	µg/l																																	
Chlorine, Total Residual	E330.4	µg/l																																	
Iron, Ferrous	3500FE B	µg/l																																	
Nitrate & Nitrite as N	E353.2	µg/l																																	
Nitrogen, Nitrate	E353.2	µg/l																																	
Nitrogen, Nitrite	E354.1	µg/l																																	
Sodium	6010C	µg/l																																	
Sulfate	E375.4	µg/l																																	
Sulfide	E376.1	µg/l																																	
Surfactants	E425.1	µg/l																																	
Total Organic Carbon	E415.1	µg/l																																	

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW117S (cont.)												MW117T																		MW118D		
Sample Name:			MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117S	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW117T	MW118D	MW118D	MW118D
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	35 to 45	70 to 80	70 to 80	70 to 80
Sample Date:			7/15/09	10/14/09	4/13/10	4/21/11	4/16/12	4/24/13	5/1/14	4/2/15	4/27/16	4/17/17	4/3/18	4/15/19	7/19/07	10/11/07	1/15/08	4/16/08	7/16/08	10/21/08	1/13/09	4/14/09	7/15/09	10/16/09	4/13/10	4/21/11	4/16/12	4/23/13	5/1/14	4/2/15	4/27/16	4/17/17	4/3/18	4/15/19	7/20/07	8/30/07	10/11/07
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																	
Volatile Organic Compounds (VOCs)																																			
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<0.10	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	NT	NT	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.5	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	NT	NT	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	NT	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	NT	NT	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	NT	NT	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	NT	NT	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	20.3	21.4	31.2
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	0.55 J	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	NT	NT	< 2.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	NT	NT	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	NT	NT	< 5.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	3.4	9.8	4.8	1.7	2.8	1.9	4.1	1.5	7.0	1.6	1.4	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0
Naphthalene			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 5.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	1.3	7.0	8.4	8.2
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	NT	NT	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	1.2	3.9	1.8
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	2.4	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																			
Iron																																			
Manganese																																			
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																			
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																	
Ethane	8015	µg/l																																	
Ethylene	8015	µg/l																																	
Alkalinity	E310.1	µg/l																																	
Chloride	E325.3	µg/l																																	
Chlorine, Total Residual	E330.4	µg/l																																	
Iron, Ferrous	3500FE B	µg/l																																	
Nitrate & Nitrite as N	E353.2	µg/l																																	
Nitrogen, Nitrate	E353.2	µg/l																																	
Nitrogen, Nitrite	E354.1	µg/l																																	
Sodium	6010C	µg/l																																	
Sulfate	E375.4	µg/l																																	
Sulfide	E376.1	µg/l																																	
Surfactants	E425.1	µg/l																																	
Total Organic Carbon	E415.1	µg/l																																	

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW118D (cont.)																								MW118S									
Sample Name:			MW118D 70 to 80 1/16/08 GEI	MW118D 70 to 80 4/16/08 GEI	MW118D 70 to 80 7/16/08 GEI	MW118D 70 to 80 10/21/08 GEI	MW118D 70 to 80 1/14/09 GEI	MW118D 70 to 80 4/14/09 GEI	MW118D 70 to 80 7/15/09 GEI	MW118D 70 to 80 10/14/09 GEI	MW901 (FD 70 to 80 10/14/09 GEI	MW118D 70 to 80 4/12/10 GEI	MW118D 70 to 80 4/20/11 GEI	MW118D 70 to 80 4/16/12 GEI	MW118D 70 to 80 11/12/12 GEI	MW118D 70 to 80 4/24/13 GEI	MW118D 70 to 80 11/18/13 GEI	MW118D 70 to 80 5/1/14 GEI	MW118D 70 to 80 11/18/14 GEI	MW118D 70 to 80 4/2/15 GEI	MW118D 70 to 80 11/19/15 GEI	MW118D 70 to 80 4/28/16 GEI	MW118D 70 to 80 11/21/16 GEI	MW118D 70 to 80 4/17/2017 GEI	MW118D 70 to 80 11/8/2017 GEI	MW118D 70 to 80 4/3/2018 GEI	MW118D 70 to 80 ######## GEI	MW118D 70 to 80 4/15/2019 GEI	MW118S 3 to 14 7/20/07 GEI	MW118S 3 to 14 8/30/07 GEI	MW118S 3 to 14 10/11/07 GEI	MW118S 3 to 14 1/11/08 GEI	MW118S 3 to 14 4/16/08 GEI	MW118S 3 to 14 7/15/08 GEI	MW118S 3 to 14 10/21/08 GEI	MW118S 3 to 14 1/14/09 GEI	MW118S 3 to 14 4/15/09 GEI	MW118S 3 to 14 7/15/09 GEI
Well Screen Interval (ft bgs):			70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	70 to 80	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14
Sample Date:			1/16/08	4/16/08	7/16/08	10/21/08	1/14/09	4/14/09	7/15/09	10/14/09	10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/24/13	11/18/13	5/1/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/2017	11/8/2017	4/3/2018	########	4/15/2019	7/20/07	8/30/07	10/11/07	1/11/08	4/16/08	7/15/08	10/21/08	1/14/09	4/15/2019	7/15/09
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																																			
Volatile Organic Compounds (VOCs)																																					
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Benzene			0.24 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<10	< 10	< 10	< 10	< 10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0 J+	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	4.8	3.1	3.1	1.1	3.4	3.7	1.1	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Chloromethane			< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1-Dichloroethane			31.7	33.3	34.3	22.8	26.0	22.8	28.7	41.2	39.5	40.0	43.5	36.9	41.4	38.5	39.1	40.6	47.9	46.6	39.3	43.9	37.7	34.8	27.4	21.9	20.0	18.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.55 J	< 1.0	< 1.0	< 1.0	0.79 J K+	0.90 J	1.6	1.8	0.85 J	0.78 J	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	0.96 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.3	1.2	1.6	2.7	5.1	6.5	6.8	6.9	5.6	27.8	8.6	7.9	5	4.3	3.7	3.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.74 J	0.68 J	< 1.0 K+	0.62 J	2.2	2.9	0.81 J	0.55 J	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25	< 25	< 25	< 25	< 25	< 50	<130	< 130	< 130	< 130	< 130	NT	NT	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	0.93 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	< 2.0	< 2.0	< 2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0
Methyl tert-butyl ether			0.40 J	< 1.0	0.40 J	< 1.0	< 1.0	0.38 J	0.39 J	0.55 J	0.51 J	< 1.0	0.83 J	< 1.0	0.63 J	< 1.0	0.46 J	< 1.0	1.9 K+	0.69 J	0.89 J	< 1.0	1.3	0.81 J	< 1.0	1.1	1.3	1.3	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.1 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0 J+
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			6.1	5.7	7.1	2.1	1.2	< 1.0	2.3	0.93 J	1.1	1.5	4.6	8.4	4.3	5.8	1.3	< 1.0	2.2	5.1	39.7	49.8	6.5	5.8	2.7	2.7	1.8	1.6	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10	NT	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10
Toluene			0.62 J	< 1.0	0.27 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Trichloroethylene (TCE)			0.94 J	1.0	1.9	< 1.0	1.9	1.5	3.0	6.1	6.3	10.0	11.9	7.4	11.5	7.7	7.3	4.3	6.9	4.6	17.6	14.4	3.3	2.6	1.7	1.5	1.5	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 G K-	< 1.0	1.9	20.2	3.1	0.93 J	2.4	1.9	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																						
Iron																																						
Manganese																																						
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																						
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																				
Ethane	8015	µg/l																																				
Ethylene	8015	µg/l																																				
Alkalinity	E310.1	µg/l																																				
Chloride	E325.3	µg/l																																				
Chlorine, Total Residual	E330.4	µg/l																																				
Iron, Ferrous	3500FE B	µg/l																																				
Nitrate & Nitrite as N	E353.2	µg/l																																				
Nitrogen, Nitrate	E353.2	µg/l																																				
Nitrogen, Nitrite	E354.1	µg/l																																				
Sodium	6010C	µg/l																																				
Sulfate	E375.4	µg/l																																				
Sulfide	E376.1	µg/l																																				
Surfactants	E425.1	µg/l																																				
Total Organic Carbon	E415.1	µg/l																																				

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

			MW118S (cont.)										MW118T																			
Sample Location:																																
Sample Name:			MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118S	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T	MW118T
Well Screen Interval (ft bgs):			3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	3 to 14	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5	39.5 to 49.5
Sample Date:			10/14/09	4/12/10	4/20/11	4/24/13	5/1/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	7/20/07	8/30/07	10/11/07	1/15/08	4/16/08	7/15/08	10/21/08	1/14/09	4/14/09	7/14/09	10/15/09	4/12/10	4/20/11	4/17/12	4/24/13	5/1/14	4/3/15	4/28/16	4/17/17	4/3/18	4/16/19
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																														
Volatile Organic Compounds (VOCs)																																
Acetone	8260	µg/l	< 5.0	< 5.0 J+	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10	< 10	<10	<10	<10
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	NT	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	35.4	34.4	44.2	42.3	42.0	41.9	37.0	33.4	33.6	40.0	53.3 J+	37.8	35.9	28.8	26.9	28.4	31.3	31.3	26.7	22.4	5.8
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.36 J	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.45 J	< 1.0	0.55 J	<1.0	<1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dioxane			< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	NT	NT	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	21.9	< 5.0	2.9 J	6.0	< 5.0	10.3	<2.0	<2.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<5.0	<5.0	<5.0	NT	NT	2.4	3.1	2.2	2.5	2.2	2.3	2.0	1.9	7.5	1.2	2.4	1.8	7.1	0.94 J	1.5	1.1	1.9	1.6	<1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.29 J	< 1.0	0.38 J	<1.0	<1.0	3.0	3.8	2.2	2.9	2.7	2.5	2.4	2.1	2.0	1.7	2.8	1.6	2.1	2.1	1.5	1.0	1.3	2.0	0.90 J	<1.0	<1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	NT	NT	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	0.31 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.50 J	0.80 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.26 J	0.62 J	<1.0	<1.0	<1.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K+	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																	
Iron																																	
Manganese																																	
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																	
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																															
Ethane	8015	µg/l																															
Ethylene	8015	µg/l																															
Alkalinity	E310.1	µg/l																															
Chloride	E325.3	µg/l																															
Chlorine, Total Residual	E330.4	µg/l																															
Iron, Ferrous	3500FE B	µg/l																															
Nitrate & Nitrite as N	E353.2	µg/l																															
Nitrogen, Nitrate	E353.2	µg/l																															
Nitrogen, Nitrite	E354.1	µg/l																															
Sodium	6010C	µg/l																															
Sulfate	E375.4	µg/l																															
Sulfide	E376.1	µg/l																															
Surfactants	E425.1	µg/l																															
Total Organic Carbon	E415.1	µg/l																															

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW119S																				MW119T											
Sample Name:			MW119S 5 to 20 8/22/07 GEI	MW119S 5 to 20 10/12/07 GEI	MW119S 5 to 20 1/15/08 GEI	MW119S 5 to 20 4/16/08 GEI	MW119S 5 to 20 7/15/08 GEI	MW119S 5 to 20 10/22/08 GEI	MW119S 5 to 20 1/13/09 GEI	MW119S 5 to 20 4/13/09 GEI	MW119S 5 to 20 7/15/09 GEI	MW119S 5 to 20 10/15/09 GEI	MW119S 5 to 20 4/13/10 GEI	MW119S 5 to 20 4/22/11 GEI	MW119S 5 to 20 4/16/12 GEI	MW119S 5 to 20 4/23/13 GEI	MW119S 5 to 20 5/1/14 GEI	MW119S 5 to 20 4/2/15 GEI	MW119S 5 to 20 4/28/16 GEI	MW119S 5 to 20 4/18/17 GEI	MW119S 5 to 20 4/3/18 GEI	MW119S 5 to 20 4/16/19 GEI	MW119T 42 to 47 8/22/07 GEI	MW119T 42 to 47 10/12/07 GEI	MW119T 42 to 47 1/16/08 GEI	MW119T 42 to 47 4/16/08 GEI	MW119T 42 to 47 7/15/08 GEI	MW119T 42 to 47 10/22/08 GEI	MW119T 42 to 47 1/13/09 GEI	MW119T 42 to 47 4/13/09 GEI	MW119T 42 to 47 7/15/09 GEI	MW119T 42 to 47 10/15/09 GEI	MW119T 42 to 47 4/13/10 GEI
Well Screen Interval (ft bgs):																																		
Sample Date:																																		
Collected By:																																		
Analyte	**Method**	**Units**																																
Volatile Organic Compounds (VOCs)																																		
Acetone	8260	µg/l	< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4 K-	< 10	< 10	< 10	< 10	<10	<10	<10	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0
Benzene			< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	9.2 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	1.4 J	< 2.0
1,4-Dichlorobenzene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	10.4 J+	11.0	10.9	10.4	11.0	5.3	9.0	9.1	7.7	10.8 J+	10.2
1,2-Dichloroethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	2.0 J+	6.4	6.0	6.2	5.8	< 1.0	5.1	5.0	4.6	6.1 J+	5.4
cis-1,2-Dichloroethylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	0.54 J J+	1.2	1.1	1.2	1.1	< 1.0	0.20 J	1.0	0.66 J	0.94 J J+	< 1.0
trans-1,2-Dichloroethylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	< 25	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0 J+	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			5.2 J+	2.0	2.1	0.83 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	4.1 J+	0.66 J	0.64 J	0.50 J	< 1.0	< 1.0	0.47 J	0.37 J	0.34 J	< 1.0	< 1.0
Methylene chloride			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	94.3 J+	105	85.0	86.3	81.2	17.5	78.8	72.2	85.8	72.5	85.4
Tetrahydrofuran			< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	0.69 J	0.52 J	2.6	< 1.0	< 1.0	0.46 J	< 1.0	0.54 J	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	25.9 J+	29.6	26.7	26.8	26.7	6.7	24.9	23.7	26.4	23.0	27.1
Vinyl chloride			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																		
Iron																																		
Manganese																																		
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																		
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																
Ethane	8015	µg/l																																
Ethylene	8015	µg/l																																
Alkalinity	E310.1	µg/l																																
Chloride	E325.3	µg/l																																
Chlorine, Total Residual	E330.4	µg/l																																
Iron, Ferrous	3500FE B	µg/l																																
Nitrate & Nitrite as N	E353.2	µg/l																																
Nitrogen, Nitrate	E353.2	µg/l																																
Nitrogen, Nitrite	E354.1	µg/l																																
Sodium	6010C	µg/l																																
Sulfate	E375.4	µg/l																																
Sulfide	E376.1	µg/l																																
Surfactants	E425.1	µg/l																																
Total Organic Carbon	E415.1	µg/l																																

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW119T (cont.)									MW120D																		MW120S		
Sample Name:			MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW119T	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120D	MW120S	MW120S	MW120S
Well Screen Interval (ft bgs):			42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	42 to 47	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	28 to 38	5 to 20	5 to 20	5 to 20
Sample Date:			4/22/11	4/16/12	4/23/13	5/1/14	4/2/15	4/28/16	4/18/17	4/3/18	4/16/19	8/22/07	10/12/07	1/17/08	4/16/08	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	8/22/07	10/12/07	1/15/08
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																														
Volatile Organic Compounds (VOCs)																																
Acetone	8260	µg/l	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 10	< 10	< 10	< 10	<10	<10	<10	< 5.0	< 5.0 J+	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	< 5.0	< 5.0 J+	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	0.56 J J+	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	1.9 J+	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	12.0 J+	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	0.85 J	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	10.3 J+	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			9.4	6.4	5.9	5.6	5.9	4.4	4.9	4.0	1.8	23.0 J+	26.0	23.2	30.8	29.5	21.8	21.4	20.9	18.4	31.1 J+	25.1	23.1	17.0	15.8	16.2	16.2	11.6	11.4	12.8	3.1	1.1 J+	4.3	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			7.0	4.4	4.2	4.1	4.5	3.4	3.7	2.4	<1.0	15.6 J+	18.9	14.3	17.8	22.0	18.4	16.7	16.9	14.1	24.7 J+	19.4	23.8	15.5	14.8	16.7	16.8	8.2	9.7	14.1	1.3	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			< 1.0	0.95 J	0.80 J	< 1.0	0.70 J	0.65 J	0.82 J	<1.0	<1.0	0.70 J J+	< 1.0	1.7	1.9	1.9	1.6	0.70 J	1.6	1.5	1.8 J+	1.7	2.4	1.4	1.1	< 1.0	0.95 J	0.64 J	0.81 J	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	< 25	< 25	< 25 J+	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0 J+	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 1.0	< 1.0	9.1 K-	1.5	0.98 J	< 1.0	0.55 J	<1.0	<1.0	6.8 J+	3.9	3.2	4.2	3.8	6.6	2.8	2.4	2.0	7.5	2.2	2.2	1.4	7.1 K-	0.78 J	1.1	< 1.0	1.1	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	0.68 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	< 1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			74.6	75.1	68.5	56.4	54.5	55.7	50.6	33.0	2.6	93.5 J+	120	113	131	103	118	84.2	114	99.3	95.0	95.9	75.0	78.5	72.0	66.4	52.9	40.4	35.2	49.9	7.7	< 1.0	< 1.0	0.97 J
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	1.1	< 1.0	0.25 J	<1.0	<1.0	<1.0	10.3 J+	4.3	3.2	< 1.0	3.9	6.4	2.8	3.7	2.5	3.3	3.5	4.3	2.0	2.6	1.7	2.1	1.1	0.45 J	1.1	<1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			23.2	21.0	21.3	16.8	20.2	18.3	17.6	12.8	2.5	32.6 J+	40.1	34.7	43.4	38.7	33.2	30.4	33.8	32.0	33.1	34.8	28.3	26.1	23.6	22.1	21.4	15.7	13.8	18.6	3.4	< 1.0	< 1.0	0.39 J
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	0.38 J	0.35 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																		
Iron																																		
Manganese																																		
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																		
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																
Ethane	8015	µg/l																																
Ethylene	8015	µg/l																																
Alkalinity	E310.1	µg/l																																
Chloride	E325.3	µg/l																																
Chlorine, Total Residual	E330.4	µg/l																																
Iron, Ferrous	3500FE B	µg/l																																
Nitrate & Nitrite as N	E353.2	µg/l																																
Nitrogen, Nitrate	E353.2	µg/l																																
Nitrogen, Nitrite	E354.1	µg/l																																
Sodium	6010C	µg/l																																
Sulfate	E375.4	µg/l																																
Sulfide	E376.1	µg/l																																
Surfactants	E425.1	µg/l																																
Total Organic Carbon	E415.1	µg/l																																

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW120S (cont.)																MW121D											
Sample Name:			MW1120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW120S	MW121D	MW121D	MW121D	MW121D	MW901	MW121D	MW900 (FD)	MW121D	MW901 (FD)	MW121D	MW900 (FD)	MW121D	MW900 (FD)
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1
Sample Date:			4/16/08	7/15/08	10/22/08	1/13/09	4/14/09	7/15/09	10/15/09	4/13/10	4/22/11	4/16/12	4/23/13	5/1/14	4/3/15	4/28/16	4/18/17	4/4/18	4/16/19	10/22/07	1/15/08	4/17/08	7/14/08	7/14/08	10/22/08	10/22/08	1/12/09	1/12/09	4/13/09	4/13/09	7/14/09	7/14/09
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																													
Volatile Organic Compounds (VOCs)																															
Acetone	8260	µg/l	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	4.2 J K-	< 10	< 10	< 10	9.3 J	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			< 1.0	2.5	< 1.0	< 1.0	< 1.0	0.36 J	< 1.0	< 1.0	< 1.0	0.52 J	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	46.3	55.3	46.6	37.2	38.1	36.1	34.2	38.2	38.3	37.2	38.1	37.6	37.9
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	13.2	< 1.0	16.7	12.8	12.6	12.9 G	8.4 G	14.0	14.2	14.1	14.2	11.0	10.4
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	3.9	11.8	6.4	21.8	22.6	83.7 G	41.2 G	134	138	80.0	78.4	105	106
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	0.70 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 25	<130	<130	<130	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	3.0	3.8	2.4	2.1	2.0	5.6	5.6	1.8	1.8	1.7	1.9	1.4	1.4
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	0.71 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	182	258	177	157	154	148 G	97.7 G	112	114	121	118	140	139
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	0.51 J	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	1.2	1.3	1.2	1.1	1.0	4.9	4.6	0.87 J	0.86 J	1.0	< 1.0	0.95 J	1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	59.6	136	68.8	71.0	72.0	48.3 G	69.0 G	36.5	36.3	62.3	70.7	76.3	76.5
Vinyl chloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.32 J	0.31 J	< 1.0	< 1.0	0.56 J	0.52 J
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																															
Iron																															
Manganese																															
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																															
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																													
Ethane	8015	µg/l																													
Ethylene	8015	µg/l																													
Alkalinity	E310.1	µg/l																													
Chloride	E325.3	µg/l																													
Chlorine, Total Residual	E330.4	µg/l																													
Iron, Ferrous	3500FE B	µg/l																													
Nitrate & Nitrite as N	E353.2	µg/l																													
Nitrogen, Nitrate	E353.2	µg/l																													
Nitrogen, Nitrite	E354.1	µg/l																													
Sodium	6010C	µg/l																													
Sulfate	E375.4	µg/l																													
Sulfide	E376.1	µg/l																													
Surfactants	E425.1	µg/l																													
Total Organic Carbon	E415.1	µg/l																													

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW121D (cont.)																		MW121S												
Sample Name:			MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121D	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW121S
Well Screen Interval (ft bgs):			32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	32.1 to 47.1	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
Sample Date:			10/14/09	4/12/10	4/20/11	4/16/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/17	11/8/17	4/3/18	11/15/18	4/15/19	10/22/07	1/15/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09	7/14/09	10/14/09	4/12/10	4/20/11	4/16/12	4/23/13
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																															
Volatile Organic Compounds (VOCs)																																	
Acetone	8260	µg/l	< 5.0	< 5.0 J+	< 5.0	< 5.0 K-	< 5.0 K-	< 10	< 10 K-	< 10	< 10	< 10	< 10	8.7 J	< 10	< 10	< 10	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 5.0 J+	< 5.0	8.2 K-	< 10
Benzene			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5
Bromodichloromethane			< 1.0	< 1.0	< 1.0	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 10	< 10	< 10	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	13.4
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 G	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane			54.8	52.9	65.8	67.7	49.9	63.4	32.1	45.0	149.0	55.7	35.9	40.2	109.0	32.0	47.6	14.8	14.0	18.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethylene			21.8	18.0	24.1	25.5	17.6	22.3	12.7	17.6	59.7 K+	23.5	14.5	14.9	35.9	14.8	15.3	7.6	7.0	7.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			253	279	217	178	122	193	67.2	133	316	186	73.6	108	271	79.9	119	24.8	44.3	73.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethylene			< 1.0	< 1.0	5.8	< 1.0	< 1.0	2.9	< 1.0	1.5	0.57 J K+	<1.0	<1.0	<1.0	1.1	0.37 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,4-Dioxane			< 25	< 25	< 25	< 25	< 25	< 50	< 50	< 25 K-	< 25 K-	<25	<25	<25	< 50	< 130	< 130	< 130	< 130	< 130	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 50
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 K-	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methyl tert-butyl ether			< 1.0	0.94 J	2.0	1.7	2.1	8.6 K-	2.7	2.3	7.1 K+	2.1	1.6	0.72 J	1.7	1.4	1.4	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-
Methylene chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Naphthalene			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,1,2-Tetrachloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethylene (PCE)			115	119	219	356	223	276	124	163	224	216	216	227	139	160	242	78	47.5	48.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrahydrofuran			< 10	< 10	< 10	< 10	< 10 F- K-	< 10	< 10	< 10 G	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 F+	< 10	< 10	< 10	< 10	< 10
Toluene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	0.62 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	0.44 J	1.4	0.56 J	1.1	< 1.0	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			146.0	96.3	233.0	342	207	342	115	236	432	266	148	262	176	159	310	39.7	23.5	31.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 1.0	< 1.0	7.4	15.2	8.5	10.2	3.4	9.5	38.4 G K-	15	7.5	18.2	23.3	6.6	10.4	<1.0	6.1	9.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																	
Iron																																	
Manganese																																	
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																	
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																															
Ethane	8015	µg/l																															
Ethylene	8015	µg/l																															
Alkalinity	E310.1	µg/l																															
Chloride	E325.3	µg/l																															
Chlorine, Total Residual	E330.4	µg/l																															
Iron, Ferrous	3500FE B	µg/l																															
Nitrate & Nitrite as N	E353.2	µg/l																															
Nitrogen, Nitrate	E353.2	µg/l																															
Nitrogen, Nitrite	E354.1	µg/l																															
Sodium	6010C	µg/l																															
Sulfate	E375.4	µg/l																															
Sulfide	E376.1	µg/l																															
Surfactants	E425.1	µg/l																															
Total Organic Carbon	E415.1	µg/l																															

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW121S (cont.)						MW122																						
Sample Name:			MW121S	MW121S	MW121S	MW121S	MW121S	MW121S	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122	MW122
Well Screen Interval (ft bgs):			5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16	4 to 16
Sample Date:			4/30/14	4/2/15	4/28/16	4/17/17	4/3/18	4/15/19	1/30/08	4/17/08	7/14/08	10/22/08	1/12/09	4/13/09	7/15/09	10/14/09	4/12/10	10/27/10	4/20/11	11/16/11	4/17/12	11/12/12	4/23/13	11/18/13	4/30/14	11/18/14	4/2/15	11/19/15	4/28/16	11/21/16	4/17/2017
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																													
Volatile Organic Compounds (VOCs)																															
Acetone	8260	µg/l	< 10	< 10	< 10	<10	<10	<10	< 5.0 J+	9.6 J	11.1	7.2	5.7	< 5.0	< 5.0 F-	< 10	3.8 J+	< 5.0	17.8	< 5.0	< 5.0	< 25 K-	< 50	< 50 K-	< 20	< 20	< 20	< 10	9.4 J	< 40	< 50
Benzene			< 0.5	< 0.5	< 0.5	<0.50	<0.50	<0.50	< 0.50	< 1.0	0.46 J	< 0.50	< 0.50	< 0.50	0.23 J	< 1.0	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50	< 2.5	< 2.5	< 2.5	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 2.0	< 2.5
Bromodichloromethane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	1.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
2-Butanone (MEK)			< 5.0	< 5.0	< 5.0	<10	<10	<10	< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25 K-	< 25	< 25	< 10	< 10	< 10	17.3 J	< 10	< 40	< 50
Carbon disulfide			< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 F-	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 10
Carbon tetrachloride			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
Chlorobenzene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
Chloroethane			< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0
Chloroform			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	0.61 J	< 1.0	< 1.0	< 1.0	0.75 J	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
Chloromethane			< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0 F-	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0 G	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 5.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	19.3	30.4 C+	10.1	15.0	16.0	25.8	21.2	20.8	29.6	20.3	19.1	15.2	17.2	14.4	11.1	12.7	15.9	12.8	15.0	6.8	18.3	20.5	30.9
1,2-Dichloroethane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	4.0	9.0 C+	1.4	4.4	3.4	6.1	5.3 F-	6.6	7.3	4.6	8.3	4.1	6.4	4.7 J	4.1 J	4.4 J	5.1	3.8 K+	4.5	1.6 J	5.8	5.6	7.7
cis-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	60.6	70.7 C+	34.0	62.5	91.5	61.9	39.4	109.0	58.6	117	45.5	66.4	61.5	84.7	56.2	67.2	68.0	69.3	43.8	75.7	61.3	68.5	67.2
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	0.87 J	< 2.0	< 1.0	< 1.0	< 1.0	0.93 J	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K+	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
1,2-Dichloropropane			< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 5.0
1,4-Dioxane			< 25 K-	< 25	< 25	<130	<130	<130	< 25	< 50	< 25	< 25	< 25	< 25	< 25	< 50	< 25	< 25	< 50	< 25	< 25 K-	< 130	< 260	< 260	< 50 K-	< 50 K-	< 50	< 50	< 50	< 200	< 630
Ethylbenzene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
2-Hexanone			< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0 J+	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25 K-	< 10	< 10	< 10	< 10	< 10	< 40	< 25
4-Isopropyltoluene			< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 10	< 20	< 10
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	3.3	3.9 C+	1.9	5.6	2.5	3.2	3.3	2.9	2.3	2.7	2.9	2.1	2.7	2.2 J	< 5.0 K-	< 5.0	1.5 J	2.6 K+	1.8	1.0 J	1.2	< 4.0	3.7
Methylene chloride			< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	1.1 J	< 2.0	39.4	< 10
Naphthalene			< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	< 5.0	< 10	2.6 J	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	< 10	< 10	< 5.0	< 20	< 25
Tert-amyl methyl ether			< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 10	< 10	< 10	< 4.0	< 4.0	< 4.0	< 4.0	< 2.0	< 8.0	< 10
1,1,1,2-Tetrachloroethane			< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 25	< 25	< 25	< 10	< 10	<2.0	<2.0	< 1.0	< 4.0	< 5.0
Tetrachloroethylene (PCE)			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	477	691 C+	122	352 G	312	499 G	677	518	856	532	656	581	1000	811	938	726	592	499	784	326	734	684	910
Tetrahydrofuran			< 10 G	< 10	< 10	<10	<10	<10	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 10	< 20	< 10	< 10	< 50 F- K-	< 50	< 50	< 20 G	< 20	< 20	< 20	< 10	< 40	< 50
Toluene			6.5	<1.0	<1.0	<1.0	<1.0	<1.0	0.48 J	< 2.0	2.8	3.7	0.64 J	2.4	1.6	< 4.0	6.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	6	< 2.0	0.79 J	0.72	< 2.0	< 1.0	< 4.0	< 5.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	1.4	3.4 C+	0.63 J	5.1	1.1	1.7	1.7	< 2.0	1.5	< 1.0	7.5	1.4	2.2	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	2.0	< 2.0	0.92 J	< 4.0	< 5.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
Trichloroethylene (TCE)			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	177	106 C+	27.0	56.9	59.6	91.7	90.2	81.1	119.0	82.1	73.1	79.0	103	88.0	93.4	76.0	98.9	58.9	82.9	44.9	98.3	87.1	102.0
Vinyl chloride			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	0.32 J	< 2.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0 F-	4.3	< 1.0	3.6	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0 K-	1.8	1.2	0.73 J	< 4.0	< 5.0
m,p-Xylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	0.92 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
o-Xylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	0.97 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
Total Xylene			< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 2.0	1.6 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 4.0	< 5.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																															
Iron																															
Manganese																															
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																															
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																													
Ethane	8015	µg/l																													
Ethylene	8015	µg/l																													
Alkalinity	E310.1	µg/l																													
Chloride	E325.3	µg/l																													
Chlorine, Total Residual	E330.4	µg/l																													
Iron, Ferrous	3500FE B	µg/l																													
Nitrate & Nitrite as N	E353.2	µg/l																													
Nitrogen, Nitrate	E353.2	µg/l																													
Nitrogen, Nitrite	E354.1	µg/l																													
Sodium	6010C	µg/l																													
Sulfate	E375.4	µg/l																													
Sulfide	E376.1	µg/l																													
Surfactants	E425.1	µg/l																													
Total Organic Carbon	E415.1	µg/l																													

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW122 (cont.)				MW201				MW202																			MW203		MW-3	
Sample Name:			MW122 4 to 16	MW122 4 to 16	MW122 4 to 16	MW122 4 to 16	MW201 11 to 21	MW201 11 to 21	MW201 11 to 21	MW201 11 to 21	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW202 10.5 to 20.5	MW203 6 to 18	MW203 6 to 18	MW-3 Unknown	MW-3 Unknown
Well Screen Interval (ft bgs):			11/8/2017	4/3/2018	########	4/16/2019	7/19/07	10/12/07	1/11/08	4/15/08	7/19/07	10/12/07	1/11/08	4/15/08	7/15/08	10/21/08	1/13/09	4/15/09	7/14/09	10/14/09	4/12/10	4/22/11	4/17/12	4/23/13	5/1/14	4/2/15	4/29/16	4/17/17	4/4/18	4/16/19	7/19/07	4/15/08	7/1/02	8/9/04
Sample Date:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	SHA	GeoInsight
Collected By:																																
Analyte	**Method**	**Units**																														
Volatile Organic Compounds (VOCs)																																
Acetone	8260	µg/l	< 10	<50	<50	<20	NT	< 5.0 J+	< 5.0	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 10	< 10	< 10	9.7	<10	<10	<10	NT	< 250	< 2500	< 2000
Benzene			< 0.50	<2.5	<2.5	<1.0	NT	< 0.50	< 0.50	< 0.50	NT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J+	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	NT	< 25	< 250	< 100
Bromodichloromethane			< 1.0	<5.0	<5.0	<2.0	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 50	< 250	< 100
2-Butanone (MEK)			< 10	<50	<50	<20	NT	< 5.0 J+	< 5.0	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<10	<10	<10	NT	< 250	< 2500	< 1000
Carbon disulfide			< 2.0	<10	<10	<4.0	NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	NT	< 250	< 2500	< 5.0
Carbon tetrachloride			< 1.0	<5.0	<5.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 50	< 250	< 100
Chlorobenzene			< 1.0	<5.0	<5.0	<2.0	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 50	< 250	< 100
Chloroethane			< 1.0	<5.0	<5.0	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	< 2.0	< 100	< 5.0	< 200
Chloroform			< 1.0	<5.0	<5.0	<2.0	NT	0.47 J	0.40 J	0.24 J	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.89 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 50	< 380	< 100
Chloromethane			< 1.0	<5.0	<5.0	<2.0	NT	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	NT	< 100	< 1200	< 200
1,4-Dichlorobenzene			< 1.0	<5.0	<5.0	<2.0	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 50	< 1200	< 100
1,1-Dichloroethane			14.8	22.7	17.0	18.8	< 1.0	0.66 J	< 1.0	0.23 J	0.50 J	< 1.0	< 1.0	0.46 J	< 1.0	< 1.0	0.34 J	< 1.0	< 1.0	3.1	5.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	22.2	13.0 J	< 380	< 100
1,2-Dichloroethane			< 1.0	<5.0	<5.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 50	< 250	< 100
1,1-Dichloroethylene			3.9	8.1	7.3	6.1	4.7	4.9	5.2	3.0	1.1	< 1.0	< 1.0	2.9	2.8	1.6	1.9	3.2	< 1.0	< 1.0	< 1.0	15.5	< 1.0	2.4	0.93 J	0.92 J	< 1.0	0.46 J	1.1	1.5	76.4	36.6 J	< 250	< 100
cis-1,2-Dichloroethylene			50	64.4	71.0	69.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	102	78.9	< 250	< 100
trans-1,2-Dichloroethylene			< 1.0	<5.0	<5.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	1.2	< 50	< 380	< 100
1,2-Dichloropropane			< 1.0	<5.0	<5.0	<2.0	NT	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	<1.0	NT	< 100	< 880	< 100
1,4-Dioxane			< 130	<630	<630	<250	NT	< 25	< 25	< 25	NT	< 25	< 25	< 25	< 25	< 25	< 25 J+	< 25 J+	< 25	< 25	< 25	< 25	< 25 K-	< 50	< 50	<25	<25	<130	<130	<130	NT	< 1300	NT	NT
Ethylbenzene			< 1.0	<5.0	<5.0	<2.0	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 50	< 250	< 100
2-Hexanone			< 5.0	<25	<25	<2.0	NT	< 5.0 J+	< 5.0	< 5.0	NT	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	NT	< 250	< 2500	< 1000
4-Isopropyltoluene			< 2.0	<10	<10	<4.0	NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	11.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<2.0	<2.0	<2.0	NT	< 250	< 250	< 100
Methyl tert-butyl ether			1.1	<5.0	<5.0	2.1	NT	75.8	240	0.26 J	NT	< 1.0	< 1.0	1.2	< 1.0	< 1.0	0.92 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 K-	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	1.0	NT	< 50	< 5.0	< 100
Methylene chloride			< 2.0	<10	<10	<4.0	NT	< 2.0	< 2.0	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	NT	< 100	< 2500	< 1000
Naphthalene			< 5.0	<25	<25	<10	NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	NT	< 250	< 1200	< 100
Tert-amyl methyl ether			< 2.0	<10	<10	<4.0	NT	4.6	17.7	< 2.0	NT	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	<2.0	NT	< 100	NT	NT
1,1,1,2-Tetrachloroethane			< 1.0	<5.0	<5.0	<2.0	NT	< 5.0	< 5.0	< 5.0	NT	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	< 250	< 250	< 100
Tetrachloroethylene (PCE)			579	959	1150	1060	5.1	19.6	25.8	18.0	17.2	14.6	21.8	55.6	48.5	39.4	37.5	53.5	52.6	61.8	84.9	86.5	20.6	37.0	31.4	28.1	40.8	20.0	39.4	68.9	15500	11500	16000	16200
Tetrahydrofuran			< 10	<50	<50	<2.0	NT	< 10	< 10	< 10	NT	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J+	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	NT	< 50	NT	NT
Toluene			20.7	<5.0	<5.0	<2.0	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 50	< 380	< 100
1,1,1-Trichloroethane (TCA)			< 1.0	<5.0	<5.0	<2.0	9.8	36.3	32.9	7.3	12.5	4.4	4.2	35.2	18.9	7.1	8.0	15.7	6.6	14.3 J+	16.8	18.6	2.8	5.2	6.9	7.4	7.1	3.5	8.1	9.8	1710	988	< 250	< 100
1,1,2-Trichloroethane			< 1.0	<5.0	<5.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J+	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	0.66 J	< 50	< 380	< 100
Trichloroethylene (TCE)			63.3	110.0	122	121	4.5	7.2	8.2	6.4	2.2	1.5	1.6	6.9	8.6	5.3	5.6	11.8 J+	7.2	9.8	12.9	8.2	1.5	2.5	1.5	1.4	1.5	0.81 J	1.5	2.2	979	618	< 250	< 100
Vinyl chloride			1.3	<5.0	<5.0	<2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 50	< 5.0	< 100
m,p-Xylene			< 1.0	<5.0	<5.0	<2.0	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 50	< 250	< 200
o-Xylene			< 1.0	<5.0	<5.0	<2.0	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 50	< 250	< 100
Total Xylene			< 1.0	<5.0	<5.0	<2.0	NT	< 1.0	< 1.0	< 1.0	NT	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	NT	< 50	ND	ND
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic																																		
Iron																																		
Manganese																																		
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																		
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l																																
Ethane	8015	µg/l																																
Ethylene	8015	µg/l																																
Alkalinity	E310.1	µg/l																																
Chloride	E325.3	µg/l																																
Chlorine, Total Residual	E330.4	µg/l																																
Iron, Ferrous	3500FE B	µg/l																																
Nitrate & Nitrite as N	E353.2	µg/l																																
Nitrogen, Nitrate	E353.2	µg/l																																
Nitrogen, Nitrite	E354.1	µg/l																																
Sodium	6010C	µg/l																																
Sulfate	E375.4	µg/l																																
Sulfide	E376.1	µg/l																																
Surfactants	E425.1	µg/l																																
Total Organic Carbon	E415.1	µg/l																																

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			MW-3 (cont.)										MW- CS1	SH-1	SH-3	SH-4	SH-MW1						SH-MW2									
Sample Name:			MW-3	MW-3	MW3	MW3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-CS1	SH-1	SH-3	SH-4	SH-MW1	SH-MW-1	SH-MW-1	SH-MW1	SHMW1	SH-MW2	SH-MW2	SH-MW-2	SH-MW-2	SH-MW2	SHMW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2	SH-MW2
Well Screen Interval (ft bgs):			Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	9 to 14	8 to 13	11 to 16	10 to 30	10 to 30	10 to 30	10 to 30	10 to 30	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25	10 to 25
Sample Date:			5/23/06	1/17/07	4/17/07	4/15/08	7/15/08	10/21/08	1/14/09	4/14/09	7/15/09	10/16/09	5/23/07	8/9/04	8/9/04	5/25/06	7/8/02	5/23/06	10/4/06	1/16/07	4/12/07	7/8/02	8/16/04	5/23/06	10/4/06	1/16/07	4/16/07	7/19/07	4/28/17	4/4/18	4/16/19
Collected By:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GeoInsight	GeoInsight	GEI	SHA	GEI	GEI	GEI	GEI	SHA	GeoInsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**																														
Volatile Organic Compounds (VOCs)																																
Acetone	8260	µg/l	< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 4000	< 2000	30.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 2000	< 5.0	< 5.0	< 5.0	< 10	NT	<10	<10	<10
Benzene			0.37 J	0.71	< 13	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 200	< 100	< 0.50	< 250	< 0.50	0.61	< 0.50	0.33 J	< 25	< 100	< 0.50	< 0.50	< 0.50	< 1.0	NT	<0.50	<0.50	<0.50
Bromodichloromethane			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
2-Butanone (MEK)			< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 5.0	< 2000	< 1000	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 1000	< 5.0	< 5.0	< 5.0	< 10	NT	<10	<10	<10
Carbon disulfide			< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	0.54 J	< 1000	< 5.0	< 5.0	< 2500	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 10	NT	<2.0	<2.0	<2.0
Carbon tetrachloride			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
Chlorobenzene			< 1.0	0.52 J	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	0.52 J	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
Chloroethane			< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 400	< 200	< 2.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 200	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<1.0	<1.0	<1.0
Chloroform			2.1	3.4	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	13.3	< 380	2.1	4.6	1.7	3.4	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
Chloromethane			< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 400	< 200	< 2.0	< 1200	< 2.0	< 2.0	< 2.0	< 2.0	< 120	< 200	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 1200	< 1.0	< 1.0	< 1.0	< 1.0	< 120	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
1,1-Dichloroethane			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	15.9	< 380	11.4	12.0	8.5	12.7	< 38	< 100	1.0	20.9	5.7	< 2.0	12.4	<1.0	<1.0	<1.0
1,2-Dichloroethane			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	103	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene			6.9	5.6	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	556 E	< 250	11.7	19.3	9.0	24.4	< 25	< 100	10.1	45.0	9.8	2.1	23.8	0.65 J	<1.0	<1.0
cis-1,2-Dichloroethylene			< 1.0	1.9	< 25	< 1.0	0.56 J	< 1.0	< 1.0	< 1.0	0.43 J	2.3 J+	< 1.0	< 200	< 100	16.6	< 250	2.1	7.3	11.2	2.7	< 25	< 100	3.9	45.7	14.7	1.4 J	26.1	1.7	2.3	3.1
trans-1,2-Dichloroethylene			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 200	< 100	< 2.0	< 880	< 2.0	< 2.0	< 2.0	< 2.0	< 88	< 100	< 2.0	< 2.0	< 2.0	< 4.0	NT	<1.0	<1.0	<1.0
1,4-Dioxane			< 25	< 25	< 630	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	NT	NT	57700	NT	< 25	< 25 R	< 25	< 25	NT	NT	< 25	< 25 R	< 25	< 5.0	NT	<130	<130	<130
Ethylbenzene			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
2-Hexanone			< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2000	< 1000	5.3	NT	< 5.0	< 5.0	< 5.0	< 5.0	NT	< 1000	< 5.0	< 5.0	< 5.0	< 10	NT	<5.0	<5.0	<5.0
4-Isopropyltoluene			< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 200	< 100	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	<2.0	<2.0	<2.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	66.4	< 200	< 100	< 1.0	< 5.0	< 1.0	0.71 J J+	< 1.0	0.74 J J+	< 5.0	< 100	< 1.0	8.7 J+	1.4	< 2.0	NT	<1.0	<1.0	<1.0
Methylene chloride			< 2.0	< 2.0	71.5	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2000	< 1000	12.2	< 2500	< 2.0	< 2.0	< 2.0	< 2.0	< 250	< 1000	< 2.0	< 2.0	< 2.0	2.3 J	NT	<2.0	<2.0	<2.0
Naphthalene			< 5.0	< 5.0	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J+	< 5.0	< 5.0	< 200	< 5.0	< 5.0	< 1200	< 5.0	< 5.0	< 5.0	< 5.0	< 120	< 100	< 5.0	< 5.0	< 5.0	< 10	NT	<5.0	<5.0	<5.0
Tert-amyl methyl ether			< 2.0	< 2.0	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J+	< 2.0	NT	NT	1.9 J	NT	< 2.0	< 2.0	< 2.0	< 2.0	NT	NT	< 2.0	< 2.0	< 2.0	< 4.0	NT	<2.0	<2.0	<2.0
1,1,1,2-Tetrachloroethane			1.9 J	4.4 J	< 130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 200	< 100	40.4	< 250	< 5.0	< 5.0	< 5.0 F+	< 5.0	< 25	< 100	< 5.0	< 5.0	< 5.0 F+	< 10	NT	<1.0	<1.0	<1.0
Tetrachloroethylene (PCE)			22100	51900	6550	400	427	606	176	141	280	391	< 1.0	49700	19500	7240	21000	16200	28300	31700 F+	48900	2000	7170	1730	7190	2880 F+	726	3320	365	459	439
Tetrahydrofuran			< 10	< 10	< 250	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NT	NT	< 10	NT	< 10	< 10	< 10	< 10	NT	NT	< 10	< 10	< 10	< 20	NT	<10	<10	<10
Toluene			0.62 J	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	1.8	< 380	0.61 J	0.47 J	< 1.0	0.36 J	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
1,1,1-Trichloroethane (TCA)			39.1	68.7	11.1 J	< 1.0	0.43 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1150	2070	7610	< 250	34.5	69.7 J+	31.4	27.9 J+	660	1550	158	1330	360	44.1	539	6.8	7.9	14.8
1,1,2-Trichloroethane			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	172	< 380	< 1.0	< 1.0	< 1.0	< 1.0	< 38	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
Trichloroethylene (TCE)			86.6	247	13.8 J	1.9	3.5	4.2	1.3	1.3	2.7	3.6	< 1.0	906	1440	7580	< 5.0	141	317	141	159	190	572	92.8	486	171	26.5	354	13.2	14.8	16.7
Vinyl chloride			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	0.55 J	< 5.0	< 100	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	<1.0	<1.0	<1.0
m,p-Xylene			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 400	< 200	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 200	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
o-Xylene			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 100	< 1.0	< 250	< 1.0	< 1.0	< 1.0	< 1.0	< 25	< 100	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
Total Xylene			< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	ND	ND	< 1.0	ND	< 1.0	< 1.0	< 1.0	< 1.0	ND	ND	< 1.0	< 1.0	< 1.0	< 2.0	NT	<1.0	<1.0	<1.0
Metals (Total)	6010B	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Arsenic																																NT
Iron																																NT
Manganese																																<15
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron																																
Others			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
Methane	8015	µg/l											NT																			0.21
Ethane	8015	µg/l											NT																			<0.23
Ethylene	8015	µg/l											NT																			<0.31
Alkalinity	E310.1	µg/l											NT																			143
Chloride	E325.3	µg/l											275000																			38.6
Chlorine, Total Residual	E330.4	µg/l											< 50																			<0.10
Iron, Ferrous	3500FE B	µg/l											NT																			<0.20
Nitrate & Nitrite as N	E353.2	µg/l											NT																			2.6
Nitrogen, Nitrate	E353.2	µg/l											NT																			2.6
Nitrogen, Nitrite	E354.1	µg/l											NT																			<0.010
Sodium	6010C	µg/l											NT																			NT
Sulfate	E375.4	µg/l											NT																			62.9
Sulfide	E376.1	µg/l											NT																			<2.0
Surfactants	E425.1	µg/l											NT																			<0.10
Total Organic Carbon	E415.1	µg/l											NT																			1.9

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:
B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-2. Chemical Testing Results - GEI Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location:			SH-MW3												COBBLE-IR-1
Sample Name:			SH-MW3 10 to 24 7/8/02	SH-MW-3 10 to 24 5/23/06	SH-MW-3 10 to 24 10/4/06	SH-MW3 10 to 24 1/17/07	SHMW3 10 to 24 4/12/07	SHMW3 10 to 24 4/15/08	SHMW3 10 to 24 4/13/10	SHMW3 10 to 24 4/21/11	SH-MW3 10 to 24 4/16/12	SH-MW3 10 to 24 4/23/13	SH-MW3 10 to 24 4/30/14	SH-MW3 10 to 24 4/2/15	COBBLE-IR-1 Unknown 6/25/07
Well Screen Interval (ft bgs):															
Sample Date:															
Collected By:			SHA	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	**Method**	**Units**													
Volatile Organic Compounds (VOCs)															
Acetone	8260	µg/l	< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 500	< 10	< 500	5.8
Benzene			< 250	< 0.50	< 0.50	< 50	< 0.50	< 500	< 0.50	< 50	< 25	< 25	< 0.50	< 25	< 0.50
Bromodichloromethane			< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	0.32 J
2-Butanone (MEK)			< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Carbon disulfide			< 2500	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Carbon tetrachloride			< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Chlorobenzene			< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Chloroethane			< 5.0	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
Chloroform			< 380	0.88 J	0.81 J	< 100	1.1	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	5.6
Chloromethane			< 1200	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,4-Dichlorobenzene			< 1200	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1-Dichloroethane			< 380	21.6	36.5	< 100	24.5	< 100	19.5	< 100	< 50	< 50	12.6	24.0 J	< 1.0
1,2-Dichloroethane			< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1-Dichloroethylene			< 250	91.0	84.4	< 100	91.3	< 100	14.2	< 100	< 50	< 50	12.5	<50	< 1.0
cis-1,2-Dichloroethylene			< 250	37.2	102	< 100	39.8	34.5 J	19.8	< 100	< 50	< 50	40.1	27.7 J	< 1.0
trans-1,2-Dichloroethylene			< 380	< 1.0	1.1	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,2-Dichloropropane			< 880	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,4-Dioxane			NT	< 25	< 25 R	< 2500	< 25	< 2500	< 25	< 2500	< 1300	< 2600	< 25 K-	<1300	< 25
Ethylbenzene			< 250	< 1.0	< 1.0	180	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
2-Hexanone			NT	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
4-Isopropyltoluene			< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Methyl tert-butyl ether			< 5.0	5.1	8.2 J+	< 100	2.4 J+	< 100	0.83 J	< 100	< 50	< 50 K-	< 1.0	< 50	< 1.0
Methylene chloride			< 2500	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	450	< 100	< 100	< 2.0	< 100	< 2.0
Naphthalene			< 1200	< 5.0	< 5.0	392 J	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	< 250	< 5.0
Tert-amyl methyl ether			NT	< 2.0	< 2.0	< 200	< 2.0	< 200	< 2.0	< 200	< 100	< 100	< 2.0	< 100	< 2.0
1,1,1,2-Tetrachloroethane			< 250	< 5.0	< 5.0	< 500	< 5.0	< 500	< 5.0	< 500	< 250	< 250	< 5.0	<50	< 5.0
Tetrachloroethylene (PCE)			26000	16900	28300	29700	34000	15200	20300	16900	7310	9650	14500	12800	< 1.0
Tetrahydrofuran			NT	< 10	< 10	< 1000	< 10	< 1000	< 10	< 1000	< 500	< 500	< 10 G	< 500	< 10
Toluene			< 380	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
1,1,1-Trichloroethane (TCA)			1200	989	1680	806	621 E J+	119	19.8 J	< 100	83.0	< 50	48.0	49.9 J	< 1.0
1,1,2-Trichloroethane			< 380	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Trichloroethylene (TCE)			870	482	1030	709	1030	306	383.0	342	152	157	231	218	< 1.0
Vinyl chloride			< 5.0	< 1.0	< 1.0	< 100	0.83 J	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
m,p-Xylene			< 250	< 1.0	< 1.0	484	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
o-Xylene			< 250	< 1.0	< 1.0	< 100	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Total Xylene			ND	< 1.0	< 1.0	543	< 1.0	< 100	< 1.0	< 100	< 50	< 50	< 1.0	< 50	< 1.0
Metals (Total)	6010B	µg/l	NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic						< 10									
Iron						255									
Manganese						NT									
Metals (Dissolved)	6010C	µg/l	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron															
Others			NT	NT	NT		NT	NT	NT	NT	NT	NT	NT	NT	NT
Methane	8015	µg/l				< 10									
Ethane	8015	µg/l				< 10									
Ethylene	8015	µg/l				< 10									
Alkalinity	E310.1	µg/l				208000									
Chloride	E325.3	µg/l				362000									
Chlorine, Total Residual	E330.4	µg/l				NT									
Iron, Ferrous	3500FE B	µg/l				NT									
Nitrate & Nitrite as N	E353.2	µg/l				1900									
Nitrogen, Nitrate	E353.2	µg/l				1900									
Nitrogen, Nitrite	E354.1	µg/l				30									
Sodium	6010C	µg/l				NT									
Sulfate	E375.4	µg/l				62600									
Sulfide	E376.1	µg/l				< 2000									
Surfactants	E425.1	µg/l				< 100									
Total Organic Carbon	E415.1	µg/l				< 1000									

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "< " = The analyte was not detected at a concentration above the specified reporting limit.
5. SHA = Sanborn Head & Associates.
6. FD = Field Duplicate Sample.
7. NT = Not Tested.

Qualifying Notes:

B The analyte found in associated method blank.
C+ The result has a high bias due to surrogate recovery above upper control limits.
E The value exceeds the calibration range.
F+ The result has a high bias due to matrix spike recovery above upper control limits.
F- The result has a low bias due to matrix spike recovery below lower control limits.
G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.
J+ The reported result is estimated.
K- The result has a low bias due to blank spike or laboratory control sample recovery below lower control limits.
K+ The result has a high bias due to blank spike or laboratory control sample recovery above upper control limits.
R The result is rejected due to gross exceedence of minimum response factor criteria.

Table 2-3. Chemical Testing Results - Kleinfelder Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	KE-114		KE-115		KE-116		KE-117			MW-5R
		Sample Name:	KE-114	KE-114	KE-115	KE-115	KE-116	KE-116	KE-117	KE-117[(a)]	KE-117	MW-5R
		Well Screen Interval (ft bgs):	5 to 30	5 to 30	5 to 30	5 to 30	5 to 30	5 to 30	5 to 20	5 to 20	5 to 20	5 to 30
		Sample Date:	9/27/12	2/6/14	9/27/12	2/6/14	9/27/12	2/6/14	9/27/12	2/6/14	4/9/14	2/6/14
		Collected By:	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder
Analyte	**Method**	**Units**										
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l										
Acetone			< 10	< 10	< 10	< 10	< 10	< 10	56	< 10	< 20	< 10
Benzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	3.8	< 1.0	< 1.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	73	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	12	< 1.0	< 1.0
1,1-Dichloroethylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	8.0	< 1.0	< 1.0
cis-1,2-Dichloroethylene			< 1.0	< 1.0	1.8	1.0	< 1.0	< 1.0	< 5.0	410	2.8	< 1.0
Ethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 1.0	< 1.0	1.4	2.4	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
Tetrachloroethylene (PCE)			< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	760	4.3	< 1.0
Tetrahydrofuran			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0
Toluene			< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	11	< 1.0	< 1.0
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
Trichloroethylene (TCE)			< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 5.0	150	1.2	< 1.0
1,2,4-Trimethylbenzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	19	< 2.0	< 2.0
m,p-Xylene			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 2.0	< 2.0
o-Xylene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 2.0	< 1.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.
(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 2-3. Chemical Testing Results - Kleinfelder Groundwater Sampling
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	WashSW[(b)]	KE-202D	KE-202S	KE-204	KE-205	KE-206	KE-207	KE-208	KE209	KE-210
		Sample Name:	WashSW[(b)]	KE-202D	KE-202S	KE-204	KE-205	KE-206	KE-207	KE-208	KE209	KE-210
		Well Screen Interval (ft bgs):	Vac-Ex	~25 to 35	5 to 20	15 to 25	9.5 to 19.5	10 to 21	8 to 18	4 to 14	9 to 19	8.5 to 18.5
		Sample Date:	2/6/14	4/8/14	4/8/14	4/14/14	4/15/14	4/14/14	4/15/14	4/14/14	4/15/14	4/15/14
		Collected By:	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder	Kleinfelder
Analyte	**Method**	**Units**										
Volatile Organic Compounds (VOCs)	SW-846 8260C	µg/l										
Acetone			< 10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			4.4	< 1.0	< 1.0	3.4	< 1.0	6.0	< 1.0	< 1.0	< 1.0	1000
1,1-Dichloroethylene			1.8	< 1.0	< 1.0	2.6	< 1.0	4.6	< 1.0	< 1.0	< 1.0	790
cis-1,2-Dichloroethylene			26	12	< 0.40	83	< 1.0	89	< 1.0	1.2	< 1.0	8.4
Ethylbenzene			7.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	71
Tetrachloroethylene (PCE)			2000	33	< 1.0	14000	1.0	12000	2.5	73	< 1.0	14000
Tetrahydrofuran			3.3	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Toluene			2.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane (TCA)			13	< 1.0	< 1.0	16	< 1.0	35.0	< 1.0	< 1.0	< 1.0	860
1,1,2-Trichloroethane			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8
Trichloroethylene (TCE)			38	5.0	< 1.0	81.0	< 1.0	86.0	< 1.0	2.0	< 1.0	24000
1,2,4-Trimethylbenzene			1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	3.6
m,p-Xylene			37	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene			19	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.

Footnote:

(a) The groundwater sample from KE-117 on February 6, 2014 was collected during overpumping of the well to simulate construction dewatering conditions and was not collected via low flow sampling techniques.
(b) WashSW was a grab sample collected from the base of an open excavation within Washington Street.

Table 2-4. Chemical Testing Results - 13 Knowlton Street Post-EPMM Installation Soil Vapor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Location Name:	13 Knowlton Street					
		Sample Name:	13 KNOW-SS1		13KNOW-SS1		13KNOW-SS1	
		Sample Date:	6/4/2007		12/22/2016		3/12/2019	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	Method	Residential Sub-Slab Soil Gas Screening Values (µg/m^3)						
Volatile Organic Compounds (VOCs)	TO-15							
Carbon Tetrachloride		42	0.82 J	0.13 J	NT	NT	NT	NT
Tetrachloroethene		98	4.5	0.67	1.0 J	0.15 J	1.92	0.283

General Notes
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. On December 14, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
5. The shutdown valve was closed for one week prior to the soil vapor sample collected on December 22, 2016.
6. Residential Sub-Slab Soil Gas Screening Values taken from the Massachusetts Department of Environmental Protection "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.

Qualifying Note:
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-5. Chemical Testing Results - 163 Glen Street Post-EPMM Installation Soil Vapor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Location Name:	**163 Glen Street**								
		Sample Name:	**163GLEN-SSV1**		**163GLEN-SSV2**		**163GLEN-SSV3**		**163GLEN-SSV1**		**163GLEN-SSV2**	
		Sample Date:	**2/14/2018**		**2/14/2018**		**2/14/2018**		**4/2/2019**		**4/2/2019**	
		Units:	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**	**µg/m³**	**ppbv**
Analyte	**Method**	**Residential Sub-Slab Soil Gas Screening Values (µg/m³)**										
Volatile Organic Compounds (VOCs)	TO-15 by SIM											
1,1-Dichloroethylene		56	< 0.793	< 0.200	3.96	1.00	1.82	0.460	< 7.93	< 2.00	< 7.93	< 2.00
cis-1,2-Dichloroethylene		56	1.15	0.290	< 0.793	< 0.200	< 0.793	< 0.200	< 7.93	< 2.00	< 7.93	< 2.00
Tetrachloroethylene (PCE)		98	4.20	0.620	1.63	0.240	< 1.36	< 0.200	< 13.6	< 2.00	< 13.6	< 2.00
1,1,1-Trichloroethane		210	< 1.09	< 0.200	3.93	0.720	< 1.09	< 0.200	< 10.9	< 2.00	< 10.9	< 2.00
Trichloroethylene (TCE)		28	1.45	0.270	7.31	1.36	2.74	0.510	14.4	2.680	23.5	4.37
Vinyl Chloride		19	1.12	0.440	8.92	3.49	3.73	1.46	< 5.11	< 2.00	6.29	2.46

General Notes

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. Residential Sub-Slab Soil Gas Screening Values taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

Table 2-6. Chemical Testing Results - 60 Tufts Street Street Post-EPMM Installation Soil Vapor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	Sample Location:	60 Tufts Street			
		Sample Name:	Sample Name:	60TUFT-SS1		60TUFT-SS1	
		Sample Date:	Sample Date:	4/4/2007		7/11/2018	
		Units:	Units:	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Sub-Slab Soil Gas Screening Values (µg/m3)**					
Volatile Organic Compounds (VOCs)	TO-15	**µg/m^3**	**ppbv**				
Carbon tetrachloride		38	6	5.7	0.9	NT	NT
Dichloroethane,1,1-		56	14	23	5.6	0.287	0.071
Dichloroethylene, cis-1,2-		56	14	1.1	0.29	< 0.079	< 0.020
Dichloroethylene, trans-1, 2-		56	14	< 0.79	< 0.20	< 0.079	< 0.020
Dichloroethylene,1,1-		56	14	2580	650	15.3	3.87
Tetrachloroethylene (PCE)		98	14	104	15.4	6.20	0.915
Trichloroethane,1,1,1- (TCA)		210	38	18300	3360	63.3	11.6
Trichloroethane,1,1,2-		10	1.9	1.2	0.22	< 0.109	< 0.020
Trichloroethylene (TCE)		28	5.2	159	29.5	4.33	0.806

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of soil vapor samples on July 11, 2018.
8. Highlighted sample indicates most recent round.
9. "SVT-MW202S" samples were collected from monitoring well soil vapor ports as part of sub-slab soil vapor sampling.
10. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
11. Values in bold exceed applicable MassDEP Sub-Slab Soil Gas Screening Values.

Qualifying Notes:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-6. Chemical Testing Results - 60 Tufts Street Street Post-EPMM Installation Soil Vapor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:		Sample Location:	60 Tufts Street (continued)									
		Sample Name:		Sample Name:	60TUFT-SS1		60TUFT-SS10		60TUFT-SS10		60TUFT-SS10		60TUFT-SS10	
		Sample Date:		Sample Date:	4/25/2019		1/16/2008		1/17/2008		1/21/2008		7/11/2018	
		Units:		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	Method	MassDEP Sub-Slab Soil Gas Screening Values (µg/m3)												
Volatile Organic Compounds (VOCs)	TO-15	µg/m³	ppbv											
Carbon tetrachloride		38	6	NT	NT	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	
Dichloroethane,1,1-		56	14	<0.809	<0.200	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	0.243	0.060	
Dichloroethylene, cis-1,2-		56	14	<0.793	<0.200	1.3	0.33	0.67 J	0.17 J	1.3	0.32	0.188	0.048	
Dichloroethylene, trans-1, 2-		56	14	<0.793	<0.200	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	0.109	0.028	
Dichloroethylene,1,1-		56	14	41.6	10.5	3.7	0.93	1.4	0.35	2.7	0.68	1.13	0.284	
Tetrachloroethylene (PCE)		98	14	5.93	0.874	895	132	504	74.3	692	102	**376**	**55.5**	
Trichloroethane,1,1,1- (TCA)		210	38	**251**	**46.0**	14	2.5	5.1	0.94	9.3	1.7	65.5	12.0	
Trichloroethane,1,1,2-		10	1.9	<1.09	<0.200	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.136	< 0.025	
Trichloroethylene (TCE)		28	5.2	3.41	0.635	226 G	42.1 G	196	36.5	170	31.6	**60.7**	**11.3**	

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of soil vapor samples on July 11, 2018.
8. Highlighted sample indicates most recent round.
9. "SVT-MW202S" samples were collected from monitoring well soil vapor ports as part of sub-slab soil vapor sampling.
10. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
11. Values in bold exceed applicable MassDEP Sub-Slab Soil Gas Screening Values.

Qualifying Notes:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-6. Chemical Testing Results - 60 Tufts Street Street Post-EPMM Installation Soil Vapor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:		Sample Location:	60 Tufts Street (continued)									
		Sample Name:		Sample Name:	60TUFT-SS10		60TUFT-SS14		60TUFT-SS14		60TUFT-SS14		60TUFT-SS14	
		Sample Date:		Sample Date:	4/25/2019		1/16/2008		1/17/2008		1/21/2008		7/11/2018	
		Units:		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	Method	MassDEP Sub-Slab Soil Gas Screening Values (µg/m3)												
Volatile Organic Compounds (VOCs)	TO-15	µg/m³	ppbv											
Carbon tetrachloride		38	6		NT	NT	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT
Dichloroethane,1,1-		56	14		<0.809	<0.200	1.2	0.3	0.89	0.22	1.5	0.36	0.154	0.038
Dichloroethylene, cis-1,2-		56	14		<0.793	<0.200	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.079	< 0.020
Dichloroethylene, trans-1, 2-		56	14		<0.793	<0.200	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	0.083	0.021
Dichloroethylene,1,1-		56	14		<0.793	<0.200	26	6.5	15	3.8	35	8.9	< 0.079	< 0.020
Tetrachloroethylene (PCE)		98	14		45.6	6.73	2370	349	1970	291	2500	368	**268**	**39.5**
Trichloroethane,1,1,1- (TCA)		210	38		8.57	1.6	2440 G	448 G	1310	241	2240	410	43.1	7.90
Trichloroethane,1,1,2-		10	1.9		<1.09	<0.200	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.109	< 0.020
Trichloroethylene (TCE)		28	5.2		11.4	2.12	160	29.8	152	28.3	127	23.7	**29.6**	**5.50**

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of soil vapor samples on July 11, 2018.
8. Highlighted sample indicates most recent round.
9. "SVT-MW202S" samples were collected from monitoring well soil vapor ports as part of sub-slab soil vapor sampling.
10. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
11. Values in bold exceed applicable MassDEP Sub-Slab Soil Gas Screening Values.

Qualifying Notes:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-6. Chemical Testing Results - 60 Tufts Street Street Post-EPMM Installation Soil Vapor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:		Sample Location:	60 Tufts Street (continued)									
		Sample Name:		Sample Name:	60TUFT-SS14		60TUFT-SS16		60TUFT-SS16		60TUFT-SS16		60TUFT-SS2	
		Sample Date:		Sample Date:	7/11/2018		1/16/2008		1/17/2008		1/21/2008		4/4/2007	
		Units:		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**MassDEP Sub-Slab Soil Gas Screening Values (µg/m3)**												
Volatile Organic Compounds (VOCs)	TO-15	**µg/m³**	**ppbv**											
Carbon tetrachloride		38	6	NT	NT	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 13	< 2.0
Dichloroethane,1,1-		56	14	<0.809	<0.200	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 8.1	< 2.0
Dichloroethylene, cis-1,2-		56	14	<0.793	<0.200	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 7.9	< 2.0
Dichloroethylene, trans-1, 2-		56	14	<0.793	<0.200	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 7.9	< 2.0
Dichloroethylene,1,1-		56	14	<0.793	<0.200	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	391	98.5
Tetrachloroethylene (PCE)		98	14	**108**	**16**	134	19.8	119	17.5	199	29.3	17	2.5
Trichloroethane,1,1,1- (TCA)		210	38	16.6	3.05	79.7	14.6	14	2.5	72.6	13.3	2970	544
Trichloroethane,1,1,2-		10	1.9	<1.09	<0.200	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 11	< 2.0
Trichloroethylene (TCE)		28	5.2	16.9	3.15	8.6	1.6	7	1.3	12	2.2	28	5.2

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of soil vapor samples on July 11, 2018.
8. Highlighted sample indicates most recent round.
9. "SVT-MW202S" samples were collected from monitoring well soil vapor ports as part of sub-slab soil vapor sampling.
10. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
11. Values in bold exceed applicable MassDEP Sub-Slab Soil Gas Screening Values.

Qualifying Notes:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-6. Chemical Testing Results - 60 Tufts Street Street Post-EPMM Installation Soil Vapor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	Sample Location:		60 Tufts Street Storage											
	Sample Name:	Sample Name:		60TUFT-STORAGE5-SS2		60TUFT-STORAGES-SS2		60TUFT-STORAGES-SS2		60TUFT-STORAGES-SS2		60TUFT-STORAGES-SS2		60TUFT-SS3	
	Sample Date:	Sample Date:		1/16/2008		1/17/2008		1/21/2008		7/11/2018		4/25/2019		4/4/2007	
	Units:	Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**MassDEP Sub-Slab Soil Gas Screening Values (µg/m3)**													
Volatile Organic Compounds (VOCs)	TO-15	**µg/m³**	**ppbv**												
Carbon tetrachloride		38	6	< 1.3	< 0.20	< 1.3	< 0.20	0.63 J	0.10 J	NT	NT	NT	NT	< 13	< 2.0
Dichloroethane,1,1-		56	14	2.8	0.7	< 0.81	< 0.20	1.1	0.28	0.093	0.023	<0.809	<0.200	5.3 J	1.3 J
Dichloroethylene, cis-1,2-		56	14	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.079	< 0.020	<0.793	<0.200	< 7.9	< 2.0
Dichloroethylene, trans-1, 2-		56	14	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.079	< 0.020	<0.793	<0.200	< 7.9	< 2.0
Dichloroethylene,1,1-		56	14	293	73.9	11	2.9	77.7	19.6	1.74	0.439	<0.793	<0.200	983	248
Tetrachloroethylene (PCE)		98	14	16	2.3	3.5	0.52	11	1.6	1.91	0.282	<1.36	<0.200	41	6
Trichloroethane,1,1,1- (TCA)		210	38	2300	422	85.1	15.6	447	81.9	12.0	2.20	7.1	1.30	6060	1110
Trichloroethane,1,1,2-		10	1.9	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.109	< 0.020	<1.09	<0.200	< 11	< 2.0
Trichloroethylene (TCE)		28	5.2	25	4.6	4.4	0.82	16	2.9	0.752	0.140	<1.07	<0.200	109	20.2

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of soil vapor samples on July 11, 2018.
8. Highlighted sample indicates most recent round.
9. "SVT-MW202S" samples were collected from monitoring well soil vapor ports as part of sub-slab soil vapor sampling.
10. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
11. Values in bold exceed applicable MassDEP Sub-Slab Soil Gas Screening Values.

Qualifying Notes:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-6. Chemical Testing Results - 60 Tufts Street Street Post-EPMM Installation Soil Vapor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	Sample Location:	60 Tufts Street MW202 Sub-Slab							
		Sample Name:	Sample Name:	SVT-MW202S		SVT-MW202S		SVT-MW202S		SVT-MW202S	
		Sample Date:	Sample Date:	7/17/2007		1/16/2008		1/17/2008		1/21/2008	
		Units:	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**	**MassDEP Sub-Slab Soil Gas Screening Values (µg/m3)**									
Volatile Organic Compounds (VOCs)	TO-15	**µg/m³**	**ppbv**								
Carbon tetrachloride		38	6	< 25	< 4.0	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		56	14	< 16	< 4.0	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethylene, cis-1,2-		56	14	< 16	< 4.0	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, trans-1, 2-		56	14	< 16	< 4.0	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene,1,1-		56	14	11 J	2.8 J	0.79	0.2	0.48 J	0.12 J	0.56 J	0.14 J
Tetrachloroethylene (PCE)		98	14	2550	376	252	37.1	366	54.0	403	59.4
Trichloroethane,1,1,1- (TCA)		210	38	537	98.5	28	5.1	27	4.9	35	6.4
Trichloroethane,1,1,2-		10	1.9	< 22	< 4.0	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		28	5.2	253	47.0	11	2.0	11	2.0	15	2.7

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of soil vapor samples on July 11, 2018.
8. Highlighted sample indicates most recent round.
9. "SVT-MW202S" samples were collected from monitoring well soil vapor ports as part of sub-slab soil vapor sampling.
10. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
11. Values in bold exceed applicable MassDEP Sub-Slab Soil Gas Screening Values.

Qualifying Notes:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-6. Chemical Testing Results - 60 Tufts Street Street Post-EPMM Installation Soil Vapor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

	Sample Location:		Sample Location:	60 Tufts Street, Unit 1							
	Sample Name:		Sample Name:	60TUFT-SS13		60TUFT-SS13		60TUFT-SS13		60TUFTS-SS13	
	Sample Date:		Sample Date:	1/16/2008		1/17/2008		1/21/2008		4/25/2019	
	Units:		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m3	ppbv
Analyte	**Method**	**MassDEP Sub-Slab Soil Gas Screening Values (µg/m3)**									
Volatile Organic Compounds (VOCs)	TO-15	**µg/m^3**	**ppbv**								
Carbon tetrachloride		38	6	0.75 J	0.12 J	< 1.3	< 0.20	1.1 J	0.18 J	NT	NT
Dichloroethane,1,1-		56	14	2.2	0.54	1.3	0.32	2.6	0.64	<0.809	<0.200
Dichloroethylene, cis-1,2-		56	14	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.793	<0.200
Dichloroethylene, trans-1, 2-		56	14	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.793	<0.200
Dichloroethylene,1,1-		56	14	40.8	10.3	23	5.7	49.6	12.5	< 0.793	< 0.20
Tetrachloroethylene (PCE)		98	14	237	34.9	249	36.7	214	31.6	125	18.5
Trichloroethane,1,1,1- (TCA)		210	38	3260 G	597 G	1010	186	3100	568	124	22.7
Trichloroethane,1,1,2-		10	1.9	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	<1.09	<0.200
Trichloroethylene (TCE)		28	5.2	5.9	1.1	4.6	0.86	8.1	1.5	7.95	1.48

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of soil vapor samples on July 11, 2018.
8. Highlighted sample indicates most recent round.
9. "SVT-MW202S" samples were collected from monitoring well soil vapor ports as part of sub-slab soil vapor sampling.
10. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
11. Values in bold exceed applicable MassDEP Sub-Slab Soil Gas Screening Values.

Qualifying Notes:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-6. Chemical Testing Results - 60 Tufts Street Street Post-EPMM Installation Soil Vapor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	Sample Location:	60 Tufts Street, Unit 4									
		Sample Name:	Sample Name:	60TUFT-4-SS1		60TUFT#4-SS1		60TUFT-UNIT4-SS1		60TUFT-UNIT4-SS1		60TUFT-UNIT4-SS1	
		Sample Date:	Sample Date:	4/4/2007		11/9/2007		1/16/2008		1/17/2008		1/21/2008	
		Units:	Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Sub-Slab Soil Gas Screening Values (µg/m3)**											
Volatile Organic Compounds (VOCs)	TO-15	**µg/m^3**	**ppbv**										
Carbon tetrachloride		38	6	< 2.5	< 0.40	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		56	14	< 1.6	< 0.40	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethylene, cis-1,2-		56	14	< 1.6	< 0.40	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, trans-1, 2-		56	14	< 1.6	< 0.40	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene,1,1-		56	14	< 1.6	< 0.40	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethylene (PCE)		98	14	136	20	213	31.4	89.5	13.2	94.3	13.9	117	17.2
Trichloroethane,1,1,1- (TCA)		210	38	345	63.2	170	31.1	200	36.7	197	36.1	234	42.9
Trichloroethane,1,1,2-		10	1.9	< 2.2	< 0.40	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		28	5.2	< 2.1	< 0.40	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of soil vapor samples on July 11, 2018.
8. Highlighted sample indicates most recent round.
9. "SVT-MW202S" samples were collected from monitoring well soil vapor ports as part of sub-slab soil vapor sampling.
10. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
11. Values in bold exceed applicable MassDEP Sub-Slab Soil Gas Screening Values.

Qualifying Notes:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-6. Chemical Testing Results - 60 Tufts Street Street Post-EPMM Installation Soil Vapor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:		Sample Location:	60 Tufts Street, Unit 4 (continued)							
		Sample Name:		Sample Name:	60TUFT-4-SS2		60TUFT#4-SS2		60TUFTS4-SS2		60TUFTS4-SS2	
		Sample Date:		Sample Date:	4/4/2007		11/9/2007		7/13/2018		4/25/2019	
		Units:		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Sub-Slab Soil Gas Screening Values (µg/m3)**										
Volatile Organic Compounds (VOCs)	TO-15	**µg/m^3**	**ppbv**									
Carbon tetrachloride		38	6		< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT
Dichloroethane,1,1-		56	14		< 0.81	< 0.20	< 0.81	< 0.20	< 0.081	< 0.020	<0.793	<0.200
Dichloroethylene, cis-1,2-		56	14		< 0.79	< 0.20	< 0.79	< 0.20	< 0.079	< 0.020	<0.793	<0.200
Dichloroethylene, trans-1, 2-		56	14		< 0.79	< 0.20	< 0.79	< 0.20	< 0.079	< 0.020	<0.793	<0.200
Dichloroethylene,1,1-		56	14		< 0.79	< 0.20	< 0.79	< 0.20	< 0.079	< 0.020	< 0.793	< 0.200
Tetrachloroethylene (PCE)		98	14		29	4.3	63	9.3	2.15	0.317	2.95	0.435
Trichloroethane,1,1,1- (TCA)		210	38		181	33.1	237	43.4	0.971	0.178	1.57	0.288
Trichloroethane,1,1,2-		10	1.9		< 1.1	< 0.20	< 1.1	< 0.20	< 0.109	< 0.020	<1.09	<0.200
Trichloroethylene (TCE)		28	5.2		< 1.1	< 0.20	< 1.1	< 0.20	< 0.107	< 0.020	<1.07	<0.200

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of soil vapor samples on July 11, 2018.
8. Highlighted sample indicates most recent round.
9. "SVT-MW202S" samples were collected from monitoring well soil vapor ports as part of sub-slab soil vapor sampling.
10. Residential Sub-Slab Soil Gas Screening Values taken from MassDEP "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
11. Values in bold exceed applicable MassDEP Sub-Slab Soil Gas Screening Values.

Qualifying Notes:

G The result is estimated due to duplicate precision outside control limits.
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-7. Chemical Testing Results - 13 Knowlton Street Post-EPMM Installation Indoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	13 Knowlton Street Pre-EPMM					
		Sample Name:	13KNOW-B		13KNOW-1		13KNOW-B	
		Sample Date:	8/28/07		8/28/07		11/7/07	
		Collected By:	GEI		GEI		GEI	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**						
Volatile Organic Compounds (VOCs)	TO-15							
Carbon tetrachloride		0.54	0.69 J	0.11 J	0.60 J	0.096 J	< 1.3	< 0.20
1,2-Dichloroethane		0.09	**3.1**	0.77	< 0.81	< 0.20	**1.1**	0.27
Tetrachloroethylene (PCE)		1.4	**6.0**	0.89	**4.5**	0.67	< 1.4	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbV = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. The samples collected after November 2007 were collected over a 24-hour period ending on the date shown.
6. Residential Threshold Values taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
7. On December 14, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
8. The shutdown valve was closed for one week prior to collection of indoor air samples on December 21, 2016, February 13, 2018 and March 12, 2019.
9. Highlighted sample indicates most recent sampling round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-7. Chemical Testing Results - 13 Knowlton Street Post-EPMM Installation
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	13 Knowlton Street Post-EPMM							
		Sample Name:	13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B	
		Sample Date:	3/3/10		3/3/10		2/1/11		2/1/11	
		Collected By:	GEI		GEI		GEI		GEI	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**								
Volatile Organic Compounds (VOCs)	TO-15									
Carbon tetrachloride		0.54	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT
1,2-Dichloroethane		0.09	**3.6**	0.89	< 0.81	< 0.20	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbV = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. The samples collected after November 2007 were collected over a 24-hour period ending on the date shown.
6. Residential Threshold Values taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
7. On December 14, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
8. The shutdown valve was closed for one week prior to collection of indoor air samples on December 21, 2016, February 13, 2018 and March 12, 2019.
9. Highlighted sample indicates most recent sampling round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-7. Chemical Testing Results - 13 Knowlton Street Post-EPMM Installation
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	13 Knowlton Street Post-EPMM Continued							
		Sample Name:	13KNOW-1		13KNOW-B		13KNOW-1		13KNOW-B	
		Sample Date:	12/21/16		12/21/16		2/13/18		2/13/18	
		Collected By:	GEI		GEI		GEI		GEI	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**								
Volatile Organic Compounds (VOCs)	TO-15									
Carbon tetrachloride		0.54	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		0.09	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	0.32	0.047	**3.8**	0.56	0.156	0.023	**1.71**	0.252

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbV = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. The samples collected after November 2007 were collected over a 24-hour period ending on the date shown.
6. Residential Threshold Values taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
7. On December 14, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
8. The shutdown valve was closed for one week prior to collection of indoor air samples on December 21, 2016, February 13, 2018 and March 12, 2019.
9. Highlighted sample indicates most recent sampling round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-7. Chemical Testing Results - 13 Knowlton Street Post-EPMM Installation
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Sample Location:	13 Knowlton Street Post-EPMM Continued			
		Sample Name:	13KNOW-1		13KNOW-B	
		Sample Date:	3/12/19		3/12/19	
		Collected By:	GEI		GEI	
		Units:	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m^3)**				
Volatile Organic Compounds (VOCs)	TO-15					
Carbon tetrachloride		0.54	NT	NT	NT	NT
1,2-Dichloroethane		0.09	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.4	0.210	0.031	**4.70**	0.693

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbV = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. The samples collected after November 2007 were collected over a 24-hour period ending on the date shown.
6. Residential Threshold Values taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
7. On December 14, 2016, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
8. The shutdown valve was closed for one week prior to collection of indoor air samples on December 21, 2016, February 13, 2018 and March 12, 2019.
9. Highlighted sample indicates most recent sampling round.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-8. Chemical Testing Results - 163 Glen Street Post-EPMM Installation Indoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

	Sample Location:	163 Glen Street							
	Sample Name:	163GLEN-IA-1		163GLEN-IA-2		163GLEN-IA-3		163GLEN-IA-4	
	Sample Date:	4/2/19		4/2/19		4/2/19		4/2/19	
	Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**								
Volatile Organic Compounds (VOCs)	TO-15								
Carbon tetrachloride		NT	NT	NT	NT	NT	NT	NT	NT
Trans-1,2-Dichloroethylene (DCE)		< 0.079	< 0.020	1.2	0.303	< 0.079	< 0.020	< 0.079	< 0.020
Tetrachloroethylene (PCE)		0.3	0.048	0.224	0.03	0.183	0.027	0.156	0.023
Trichloroethane,1,1,1- (TCA)		< 0.109	< 0.020	< 0.109	< 0.020	< 0.109	< 0.020	< 0.109	< 0.020

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

Qualifying Note:
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-9. Chemical Testing Results - 60 Tufts Street Post-EPMM Installation Indoor Air - Common Area
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

				Sample Location:	60 Tufts Street, Common Spaces			
				Sample Name:	60TUFTHALL-A		60TUFTHALL-B	
				Sample Date:	4/20/10		4/20/10	
				Collected By:	GEI		GEI	
				Units:	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m3)**						
Volatile Organic Compounds (VOCs)	TO-15	**µg/m^3**	**ppbv**					
Tetrachloroethylene (PCE)		1.4	0.21		< 1.4	< 0.20	< 1.4	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of indoor air samples on July 10, 2018.
8. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
9. Values in bold exceed the applicable MassDEP Residential Threshold Values.
10. Highlighted samples indicate most recent round.
11. NT = Not tested.
12. "HALL" sample collected in April 2019 was collected from the same location as "HALL-A" sample collected in 2010.

Table 2-9. Chemical Testing Results - 60 Tufts Street Post-EPMM Installation Indoor Air - Commor
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

				Sample Location:	60 Tufts Street, Common Spaces Continued							
				Sample Name:	60TUFT-GARG		60TUFT-HALL		60TUFT-STOR1		60-TUFTSTOR2	
				Sample Date:	4/25/2019		4/25/19		4/25/19		4/25/19	
				Collected By:	GEI		GEI		GEI		GEI	
				Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m3)**										
Volatile Organic Compounds (VOCs)	TO-15	**µg/m^3**	**ppbv**									
Tetrachloroethylene (PCE)		1.4	0.21		0.210	0.031	0.292	0.043	0.163	0.024	0.142	0.021

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of indoor air samples on July 10, 2018.
8. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
9. Values in bold exceed the applicable MassDEP Residential Threshold Values.
10. Highlighted samples indicate most recent round.
11. NT = Not tested.
12. "HALL" sample collected in April 2019 was collected from the same location as "HALL-A" sample collected in 2

Table 2-10. Chemical Testing Results - 60 Tufts Street Post-EPMM Installation Indoor Air - Unit 1
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

				Sample Location:	60 Tufts Street, Unit 1		60 Tufts Street, Unit 1		60 Tufts Street, Unit 1		60 Tufts Street, Unit 1	
				Sample Name:	60TUFTS1-1		60TUFTS1-1		60TUFTS-1		60TUFTS-1	
				Sample Date:	5/27/09		2/5/11		7/11/18		4/25/19	
				Collected By:	GEI		GEI		GEI		GEI	
				Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values (µg/m3)**										
Volatile Organic Compounds (VOCs)	TO-15	**µg/m^3**	**ppbv**									
Tetrachloroethylene (PCE)		1.4	0.21		< 1.4	< 0.20	< 1.4	< 0.20	0.787	0.116	0.712	0.105

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of indoor air samples on July 11, 2018.
8. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
9. Highlighted sample indicates most recent round.

Table 2-11. Chemical Testing Results - 60 Tufts Street Post-EPMM Installation Indoor Air - Unit 4
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

				Sample Location:	60 Tufts Street, Unit 4									
				Sample Name:	60TUFTU4-1		60TUFTU4-B		60TUFTU4-1		60TUFTU4-B		60TUFTU4-1	
				Sample Date:	5/27/09		5/27/09		6/22/09		6/22/09		2/24/10	
				Collected By:	GEI		GEI		GEI		GEI		GEI	
				Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values**												
Volatile Organic Compounds (VOCs)	TO-15	**µg/m^3**	**ppbv**											
trans-1,2-Dichloroethylene		0.09	0.022		3.2	0.80	< 0.81	< 0.20	2.8	0.70	< 0.81	< 0.20	< 0.81	< 0.20
Tetrachloroethylene (PCE)		1.4	0.21		1.4	0.20	1.0 J	0.15 J	0.95 J	0.14 J	< 1.4	< 0.20	5.8	0.86
Trichloroethylene (TCE)		0.4	0.075		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	0.75 J	0.14 J	2.1	0.39

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of indoor air samples on July 10, 2018 and April 25, 2019.
8. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
9. Values in bold exceed the applicable MassDEP Residential Threshold Values.
10. Highlighted sample indicates most recent round.
11. NT = Not tested.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-11. Chemical Testing Results - 60 Tufts Street Post-EPMM Installation Indoor Air - Unit 4
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

				Sample Location:	60 Tufts Street, Unit 4							
				Sample Name:	60TUFTU4-B		60TUFTU4-1		60TUFTU4-B		60TUFTU4-1	
				Sample Date:	2/24/10		9/19/10		9/19/10		2/5/11	
				Collected By:	GEI		GEI		GEI		GEI	
				Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values**										
Volatile Organic Compounds (VOCs)	TO-15	**µg/m^3**	**ppbv**									
trans-1,2-Dichloroethylene		0.09	0.022		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT
Tetrachloroethylene (PCE)		1.4	0.21		5.2	0.76	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethylene (TCE)		0.4	0.075		1.9	0.35	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of indoor air samples on July 10, 2018 and April 25
8. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
9. Values in bold exceed the applicable MassDEP Residential Threshold Values.
10. Highlighted sample indicates most recent round.
11. NT = Not tested.

Qualifying Note:

J The reported result is below the laboratory reporting limit and is estimated.

Table 2-11. Chemical Testing Results - 60 Tufts Street Post-EPMM Installation Indoor Air - Unit 4
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

				Sample Location:	60 Tufts Street, Unit 4									
				Sample Name:	60TUFTU4-B		60TUFTS4-1		60TUFTS4-B		60TUFTS4-1		60TUFTS4-B	
				Sample Date:	2/5/11		7/10/18		7/10/18		4/25/19		4/25/19	
				Collected By:	GEI		GEI		GEI		GEI		GEI	
				Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**	**MassDEP Residential Indoor Air Threshold Values**												
Volatile Organic Compounds (VOCs)	TO-15	**µg/m^3**	**ppbv**											
trans-1,2-Dichloroethylene		0.09	0.022		NT	NT	**0.146**	**0.036**	**0.154**	**0.038**	<0.079	<0.020	**0.115**	**0.029**
Tetrachloroethylene (PCE)		1.4	0.21		< 1.4	< 0.20	0.488	0.072	0.522	0.077	0.264	0.039	0.698	0.103
Trichloroethylene (TCE)		0.4	0.075		< 1.1	< 0.20	< 0.107	< 0.020	< 0.107	< 0.020	< 0.107	< 0.020	<0.107	<0.020

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. MassDEP = Massachusetts Department of Environmental Protection
5. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
6. On March 20, 2018, GEI observed the installation of a shutdown valve on the riser pipe of the SSDS.
7. The shutdown valve was closed for 1 week prior to collection of indoor air samples on July 10, 2018 and April 25
8. Residential Threshold Values for indoor air taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.
9. Values in bold exceed the applicable MassDEP Residential Threshold Values.
10. Highlighted sample indicates most recent round.
11. NT = Not tested.

Qualifying Note:
J The reported result is below the laboratory reporting limit and is estimated.

Table 2-12. Summary of Meteorological Data During Air Sampling Events
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Sample Location	Sample Date	Sample Location	Inside Temperature (ºF)[1,3]		Inside Barometric Pressure (in. Hg)[2,4]		Outside Temperature (ºF)[1,3]		Outside Barometric Pressure (in. Hg)[2,4]		Prevailing Wind Direction		General Weather Conditions		Significant precipitation within 12 hours prior to Sampling?
			Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	
Residences															
13 Knowlton Street	3/11/2019	B	63.3	58.4	NM	NM	45	40	29.9	30.10	Calm	West	Cloudy	Clear	No
		1	67.0	67.0	NM	NM									
163 Glen Street	4/1/2019	IA-1	NM	NM	NM	NM	41	47	30.05	30.38	West	South	Partly cloudy	Partly cloudy	No
		IA-2	NM	NM	NM	NM									
		IA-3	NM	NM	NM	NM									
		IA-4	NM	NM	NM	NM									
60 Tufts Street	4/24/2019	1-1	NM	NM	NM	NM	61	54	29.7	29.9	West	East	Cloudy	Sunny	No
		STOR1	NM	NM	NM	NM									
		STOR2	NM	NM	NM	NM									
		GARG	NM	NM	NM	NM									
		HALL	NM	NM	NM	NM									
		4-1	NM	NM	NM	NM	50	50	29.8	29.9	East	South	Sunny	Clear	
		4-B	NM	NM	NM	NM									

General Notes:
1. ºF = degrees Fahrenheit.
2. in. Hg = inches of mercury.
3. Temperatures were measured in the field using a hand-held thermometer.
4. Barometric pressures were measured in the field with a digital barometer.
5. NM = Not Measured.
6. NA = Not Applicable.
7. Samples were collected from the basement (B) and the first floor (1) of 13 Knolwton and 60 Tufts.
8. Samples were collected from the floor only of 163 Glen Street because there is no basement.

Table 3-1. Summary of SSDS Monitoring Events - Capuano Center
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
2/11/2019	1	SSDS Quarterly Monitoring	-Pressure readings, VOC concentrations, and flow rate at each manifold pipe. -Pressure readings, VOC concentrations, and flow rate at all the exterior extraction pipes.	No
4/17/2019	2	SSDS Quarterly Monitoring	-Pressure readings, VOC concentrations, and flow rate at each manifold pipe. -Pressure readings, VOC concentrations, and flow rate at all the exterior extraction pipes.	No

General Notes:
1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VOC measurements collected with a ppm-RAE calibrated to 100 parts per million (ppm) isobutylene.
5. Pressure readings collected using a Dwyer 475-000-FM manometer.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Cafetorium		Room 101				Room 108				Room 121		Room 122				Room 125				Room 126					
	Sample ID:	150 GLEN-CAF		150 GLEN-ROOM 101A		150 GLEN-ROOM 101B		150 GLEN-ROOM 108A		150 GLEN-ROOM 108B		150 GLEN-ROOM 121		150 GLEN-ROOM 122		150 GLEN-RM 122		150 GLEN-ROOM 125A		150 GLEN-ROOM 125B		150 GLEN-ROOM 126		150 GLEN-ROOM 100 (FD-Room 126)		150 GLEN-RM 126	
	Sample Date:	1/6/07		12/27/06		12/28/06		12/27/06		12/28/06		1/6/07		1/6/07		2/7/07		5/23/15		12/27/06		12/28/06		1/13/07		1/13/07		2/7/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.49 J J+	0.078 J J+	< 1.3	< 0.20	< 1.3	< 0.20	0.94 J	0.15 J	< 1.3	< 0.20	0.52 J J+	0.082 J J+	0.51 J	0.081 J J+	0.69 J	0.11 J	NT	NT	1.0 J	0.16 J	< 1.3	< 0.20	0.69 J	0.11 J	0.63 J	0.10 J	0.94 J	0.15 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		0.88 J J+	0.13 J J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	0.88 J	0.13 J	0.75 J	0.11 J	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 126 (continued)																									
Sample ID:		150GLEN-ROOM 126		150 GLEN-ROOM 126		150 GLEN-RM 126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126	
Sample Date:		3/8/07		4/20/07		5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/172008		4/21/08	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.60 J	0.095 J	0.69 J	0.11 J	0.82 J	0.13 J	< 1.3	< 0.20	0.69 J	0.11 J	0.59 J	0.093 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.0 J	0.15 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 126 (continued)																		Room 134						Room 136		Room 137			
	Sample ID:	150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150GLEN-RM126		150 GLEN-ROOM 134		150 GLEN-RM 134		150 GLEN-RM 134		150 GLEN-ROOM 136		150 GLEN-ROOM 137A		150 GLEN-ROOM 137B	
	Sample Date:	8/18/08		11/24/08		3/2/09		8/27/09		11/11/09		2/19/10		11/11/10		3/17/11		5/23/15		1/13/07		2/7/07		5/23/15		1/13/07		1/6/07		1/6/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																														
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride		0.60 J	0.096 J	0.60 J	0.096 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	0.75 J	0.12 J	0.94 J	0.15 J	NT	NT	0.69 J	0.11 J	0.52 J J+	0.082 J J+	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	3.2	0.47	< 1.4	< 0.20	< 1.4	< 0.20	2.1	0.31	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	0.54 J	0.10 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

		Sample Location:	Room 138																									
		Sample ID:	RM138		150 GLEN-ROOM 138		150 GLEN-ROOM 138		150 GLEN-ROOM 138		150 GLEN-ROOM 138 (Alpha duplicate)		150 GLEN-RM 138		150 GLEN-RM 139 (FD-Room 138)		150GLEN-ROOM 138		150GLEN-ROOM 139 (FD-Room 138)		150 GLEN-ROOM 138		150GLEN-ROOM 139 (FD-Room 138)		150 GLEN-RM 138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138	
		Sample Date:	1/2/07		1/6/07		1/13/07		1/26/07		1/26/07		2/7/07		2/7/07		3/8/07		3/8/07		4/20/07		4/20/07		5/17/07		5/17/07		7/30/07	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																													
Volatile Organic Compounds (VOCs)	TO-15																													
Carbon tetrachloride			< 1.3	< 0.20	0.49 J J+	0.078 J J+	0.82 J	0.13 J	0.82 J	0.13 J	< 0.126	< 0.020	0.75 J	0.12 J	0.52 J	0.082 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.61 J	0.097 J
Dichloroethane,1,1-			0.45 J	0.11 J	0.77 J J+	0.19 J J+	0.57 J	0.14 J	0.65 J	0.16 J	< 0.081	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-			< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.079	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-			< 0.79	< 0.20	2.1 J+	0.54 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.079	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-			< 0.79	< 0.20	0.83 J+	0.21 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.0819	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-			< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+
Tetrachloroethylene (PCE)			14	2.0	60 J+	8.8 J+	20	3.0	20	3.0	32.6	4.8	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.17 J
Trichloroethane,1,1,1- (TCA)			< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.109	< 0.020	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)			2.3	0.42	7 J+	1.3 J+	3.1	0.57	3.3	0.61	4.26	0.794	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 138 (continued)																									
	Sample ID:	150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM239 (FD-Room 138)		150GLEN-RM238 (FD-Room 138)		150GLEN-RM138		150GLEN-ROOM 139 (FD-Room 138)		150GLEN-RM238 (FD-Room 138)		150GLEN-RM239 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
	Sample Date:	7/30/07		9/10/07		9/10/07		10/8/07		10/8/07		10/8/07		10/8/07		10/14/07		10/14/07		10/14/07		10/14/07		11/15/07		11/15/07		12/13/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.69 J	0.11 J	0.69 J	0.11 J	0.69 J	0.11 J	0.69 J	0.11 J	0.88 J	0.14 J	0.82 J	0.13 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.59 J	0.094 J	0.62 J	0.099 J	0.69 J	0.11 J	0.69 J	0.11 J	0.57 J	0.091 J
Dichloroethane,1,1-		< 0.81 J+	< 0.20 J+	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81 J+	< 0.20 J+	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79 J+	< 0.20 J+	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79 J+	< 0.20 J+	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		1.1 J	0.16 J	< 1.4 J+	< 0.20 J+	6.5	0.96	< 1.4	< 0.20	1.5	0.22	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1 J+	< 0.20 J+	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1 J+	< 0.20 J+	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

Sample Location:		Room 138 (continued)																									
Sample ID:		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
Sample Date:		12/13/07		1/21/08		1/21/08		2/19/08		2/19/08		2/22/08		2/22/08		3/17/08		3/17/08		4/21/08		4/21/08		8/18/08		8/18/08		11/24/08	
Units:		µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.75 J	0.12 J	0.69 J	0.11 J	0.69 J	0.11 J	0.63 J	0.10 J	0.62 J	0.098 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.8	0.27	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 138 (continued)																									
	Sample ID:	150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138		150GLEN-RM139 (FD-Room 138)		150GLEN-RM138	
	Sample Date:	11/24/08		3/2/09		3/2/09		8/27/09		8/27/09		11/11/09		11/11/09		2/19/10		2/19/10		11/11/10		11/11/10		3/17/11		3/17/11		5/23/15	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.53	< 0.13	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.52	< 0.13	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.37	< 0.094	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 0.82	< 0.12	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 0.95	< 0.14	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 0.76	< 0.14	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 0.70	< 0.13	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 141																							
	Sample ID:	150 GLEN-ROOM 141		150GLEN-ROOM 141		150 GLEN-ROOM 141		150 GLEN-RM 141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141	
	Sample Date:	1/6/07		3/8/07		4/20/07		5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.45 J J+	0.071 J J+	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3 J+	< 0.20 J+	0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 141 (continued)																Room 142											
	Sample ID:	150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		150GLEN-RM141		RM142		150 GLEN-ROOM 142		150 GLEN-RM 142		150GLEN-ROOM 142		150 GLEN-ROOM 142		150 GLEN-RM 142		150GLEN-RM142	
	Sample Date:	4/21/08		8/18/08		11/24/08		3/2/09		8/27/09		2/19/10		11/11/10		3/17/11		1/2/07		1/6/07		2/7/07		3/8/07		4/20/07		5/17/07		7/30/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																														
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride		0.69 J	0.11 J	0.60 J	0.096 J	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	< 1.3	< 0.20	0.52 J J+	0.083 J J+	0.82 J	0.13 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.63 J	0.10 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	1.4	0.35	1.2 J+	0.29 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	1.0	0.25
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	0.87	0.22	2.5 J+	0.63 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4 J+	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	28	4.1	45 J+	6.6 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	0.33 J J+	0.061 J J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	0.62 J	0.092 J	0.62 J	0.092 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	3.7	0.69	5.4 J+	1 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 142 (cont)																											
	Sample ID:	150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142	
	Sample Date:	9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08		4/21/08		8/18/08		11/24/08		3/2/09		8/27/09		11/11/09	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.75 J	0.12 J	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 142 (continued)								Room 144				Room 145		Room 146													
	Sample ID:	150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150GLEN-RM142		150 GLEN-ROOM 144		150 GLEN-ROOM 144 (Alpha duplicate)		150 GLEN-ROOM 145		150 GLEN-ROOM 146A		150 GLEN-ROOM 146B		150 GLEN-ROOM 146B (FD-Room 146)		RM146		150 GLEN-ROOM 146		150 GLEN-RM 146		150GLEN-ROOM 146		150 GLEN-ROOM 146	
	Sample Date:	2/19/10		11/11/10		3/17/11		5/23/15		1/13/07		1/13/07		1/6/07		12/27/06		12/28/06		12/28/06		1/2/07		1/6/07		2/7/07		3/8/07		4/20/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																														
Volatile Organic Compounds (VOCs)	TO-15																														
Carbon tetrachloride		< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	0.88 J	0.14 J	< 3.14	< 0.50	0.45 J J+	0.071 J J+	1.1 J	0.18 J	< 1.3	< 0.20	0.49 J	0.078 J	0.63 J	0.10 J	< 1.3	< 0.20	0.75 J	0.12 J	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 2.02	< 0.50	< 0.81	< 0.20	10	2.5	3.6	0.88	3.3	0.82	0.53 J	0.13 J	0.57 J J+	0.14 J J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 1.98	< 0.50	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 1.98	< 0.50	< 0.79	< 0.20	7.9	2.0	4.0	1.0	3.9	0.99	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 2.02	< 0.50	< 0.79	< 0.20	3.3	0.83	1.3	0.33	1.2	0.31	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 2.0	< 0.50	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	4.1	0.61	4.36	0.643	< 1.4	< 0.20	186	27.5	83.4	12.3	85.4	12.6	11	1.6	26 J+	3.8 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.1	< 0.20	< 2.72	< 0.50	< 1.1	< 0.20	2.1	0.38	0.82 J	0.15 J	0.71 J	0.13 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	1.3	0.24	< 2.68	< 0.50	< 1.1	< 0.20	37	6.8	10	1.9	11	2.1	1.7	0.32	3.0 J+	0.56 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 146 (continued)																									
	Sample ID:	150 GLEN-RM 146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146	
	Sample Date:	5/17/07		7/30/07		9/10/07		10/8/07		10/14/07		11/15/07		12/13/07		1/21/08		2/19/08		2/22/08		3/17/08		4/21/08		8/18/08		11/24/08	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																												
Volatile Organic Compounds (VOCs)	TO-15																												
Carbon tetrachloride		< 1.3	< 0.20	0.62 J	0.099 J	0.82 J	0.13 J	< 1.3	< 0.20	0.58 J	0.092 J	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.62 J	0.098 J	< 1.3	< 0.20	0.75 J	0.12 J	0.60 J	0.096 J	0.63 J	0.10 J
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81 J+	< 0.20 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	0.49 J	0.12 J	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79 J+	< 0.20 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4 +	< 0.20 J+	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	1.0 J	0.15 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1 J+	< 0.20 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Room 146 (continued)														Outside of School by Room 126 Window						Outside of School by Day Care Window					
	Sample ID:	150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150GLEN-RM146		150 GLEN-0-1A		150 GLEN-0-1B		150 GLEN-0-1A		150 GLEN-0-2A		150 GLEN-0-2B		150 GLEN-0-2A	
	Sample Date:	3/2/09		8/27/09		11/11/09		2/19/10		11/11/10		3/17/11		5/23/15		12/27/06		12/28/06		1/6/07		12/27/06		12/28/06		1/6/07	
	Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																										
Volatile Organic Compounds (VOCs)	TO-15																										
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	NT	NT	NT	NT	NT	NT	< 1.3	< 0.20	< 1.3	< 0.20	0.52 J J+	0.083 J J+	1.1 J	0.17 J	< 1.3	< 0.20	0.52 J J+	0.082 J J+
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.53	< 0.13	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	NT	NT	NT	NT	NT	NT	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.52	< 0.13	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.37	< 0.094	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.82	< 0.12	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 0.95	< 0.14	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.1	< 0.20	0.93 J	0.17 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.76	< 0.14	< 1.1	< 0.20	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 0.70	< 0.13	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

		Sample Location:	Downwind on Roof																					
		Sample ID:	150 GLEN-ROOF B		150 GLEN-ROOF B		150GLEN-ROOF		150 GLEN-ROOF		150 GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF	
		Sample Date:	2/8/07		2/8/07		3/8/07		4/20/07		5/17/07		8/9/07		9/10/07		10/14/07		11/14/07		12/17/07		1/21/08		2/19/08	
		Units:	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³	ppbv
Analyte	**Method**																									
Volatile Organic Compounds (VOCs)	TO-15																									
Carbon tetrachloride			< 1.3	< 1.3	< 0.20	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-			< 0.81	< 0.81	< 0.20	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-			< 0.81	< 0.81	< 0.20	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-			< 0.79	< 0.79	< 0.20	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-			< 0.79	< 0.79	< 0.20	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-			< 1.4	< 1.4	< 0.20	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)			< 1.4	< 1.4	< 0.20	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.18 J	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)			< 1.2	< 1.2	< 0.21	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21
Trichloroethylene (TCE)			< 1.1	< 1.1	< 0.20	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 3-2. Chemical Testing Results - Capuano Center Indoor and Outdoor Air
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Capuano Center
150 Glen Street
Somerville, Massachusetts

	Sample Location:	Downwind on Roof (cont)											
	Sample ID:	150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF	
	Sample Date:	3/17/08		4/21/08		8/18/08		11/24/08		8/27/09		11/11/09	
	Units:	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv	µg/m^3	ppbv
Analyte	**Method**												
Volatile Organic Compounds (VOCs)	TO-15												
Carbon tetrachloride		< 1.3	< 0.20	0.69 J	0.11 J	0.63 J	0.10 J	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20
Dichloroethane,1,1-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethane,1,2-		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Dichloroethene,1,1-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Dichloroethylene, cis-1,2-		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethane,1,1,2,2-		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Trichloroethane,1,1,1- (TCA)		< 1.2	< 0.21	< 1.2	< 0.21	< 1.2	< 0.21	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m^3 = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. FD = Field Duplicate.
6. The samples collected in August 2009, November 2009, February 2010, November 2010, March 2011, and May 2015 were collected over a 24 hour period.

7 NT = Not Tested.

Qualifying Notes:

J The reported result is below the laboratory reporting limit and is estimated.

J+ The reported result is estimated.

Table 4-1. Exposure Pathway Mitigation Measure (EPMM) Status
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

				Construction Details												
Property Address	EPMM Design Option	Date Completed or Last Modified	Date of Last Indoor Air Monitoring	Ventilation Fan(s) (Model No.) [a]	Number of Sub-Slab Vapor Extraction Points (SSDS)	Sub-slab Vapor Barrier - HDPE Liner	Sub-Slab Ventilation System - Geocomposite	Sub-Slab Vapor Trench	Foundation Wall Ventilation System - Geocomposite	New Basement Slab Installed	Crawlspace Vapor Barrier	Epoxy Vapor Barrier - Floor	Epoxy Vapor Barrier - Foundation Walls	Telemetry Installed (if necessary)	Reason Telemetry not Installed (if applicable)	AUL Recorded (Yes/No)
91-93 Franklin Street	3	March, 2009	3/1/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
95 Franklin Street	2/1 [b]	May, 2011	5/16/2013	GP-501	-	-	-	Yes	-	-	Yes	Yes	Yes	Yes	-	No
95R Franklin Street	2	December, 2007	3/8/2010	-	-	-	-	Yes	Yes	-	Yes	Yes	Yes	-	-	Yes
150 Glen Street	1	April, 2015	5/23/2015	GP-501 (3)	18	-	-	-	-	-	-	-	-	Yes	-	No
163 Glen Street	2	July 2018	To be scheduled	-	-	Yes	-	Yes	-	Yes	-	-	-	-	-	No
166-168 Glen Street	3	November, 2010	3/1/2012	-	-	Yes	Yes	-	-	Yes	Yes	Yes	Yes	-	-	Yes
9 Knowlton Street	1	January, 2010	5/21/2007	GP-501	5	-	-	-	-	-	-	-	-	No	Refused access	Yes
13 Knowlton Street	1	January, 2010	2/1/2011	GP-501	4	-	-	-	-	-	-	-	-	Yes	-	Yes
17 Knowlton Street	3	March, 2009	3/7/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
31-33 Knowlton Street	1	February, 2008	3/19/2010	HS-5000	7	-	-	-	-	-	-	-	-	Yes	-	No
32 Knowlton Street	3	May, 2009	3/8/2011	-	-	-	-	-	-	-	-	-	-	-	-	Yes
34 Knowlton Street	3	June, 2014	4/27/2015	-	-	Yes	-	-	-	Yes	-	-	-	-	-	Yes
35-37 Knowlton Street	3/1 [b]	April, 2010	3/11/2011	GP-501	-	Yes	Yes	-	-	Yes	-	Yes	Yes	Yes	-	No
4 Morton Street	3	November, 2008	3/20/2012	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	No
10 Morton Street	3	March, 2009	3/5/2011	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
11 Morton Street	2	November, 2008	2/23/2010	-	-	-	-	Yes	Yes	-	-	Yes	Yes	-	-	Yes
12 Morton Street	3	March, 2008	11/19/2010	-	-	Yes	Yes	-	-	Yes	-	Yes	Yes	-	-	Yes
13 Morton Street	1	October, 2008	9/17/2014	GP-501	5	-	-	-	-	-	-	-	-	Yes	-	No
18 Morton Street	1	July, 2007	2/24/2011	GP-501	5	-	-	-	-	-	-	-	-	Yes	-	No
19-19A Morton Street	3	August, 2009	3/1/2012	-	-	-	-	-	-	-	-	-	-	-	-	Yes
23 Tufts Street	1	May, 2007	2/25/2010	GP-501	1	-	-	-	-	-	-	-	-	Yes	-	No
27 Tufts Street	3/1 [b]	May, 2011	5/23/2013	GP-501	-	Yes	Yes	-	-	Yes	Yes	Yes	Yes	Yes	-	No
50 Tufts Street	1	August, 2007	3/11/2015	Regenerative Blower	22	-	-	-	-	-	-	Yes	-	Yes	-	No
60 Tufts Street	1	April, 2009	2/5/2011	Regenerative Blower	14	-	-	-	-	-	-	-	-	Yes	-	No

General Notes:
1. NS = Not sampled.
2. - = Not Applicable.

Footnotes:
(a) Ventilation fans manufactured by Radon Away.
(b) An Option 2 or 3 EPMM was initially installed at these properties; however, a fan was added to the EPMM to improve performance. Therefore, these EPMMs consist of Option 1 with Option 2 or 3 EPMM elements.

Table 4-2. Indoor Air Sampling and EPMM Monitoring - December 16, 2018 through June 15, 2019
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
Residential and Commercial Properties
Somerville, Massachusetts

Property	Property Type	Indoor Air Sampling[1]	EPMM Inspection[3]	Indoor Air Sampling Rationale
163 Glen Street	Residential	04/02/19	NA	
13 Knowlton Street	Residential	03/12/19	03/12/19	SSDS shutdown testing
60 Tufts Street (Unit 1, 4 and 5)	Residential	4/25/2019	04/25/19	SSDS shutdown testing

General Notes:

1. EPMM = Exposure Pathway Mitigation Measure.
2. See Appendix D for Air Sampling Checklists.
3. See Section 4 for a description of EPMM Inspection activities. 60 Tufts Street EPMM is inspected quarterly; see Section 5.
4. NA = No inspection was performed during this reporting period.
5 SSDS = Sub-slab depressurization system.

Table 5-1. Summary of SSDS Monitoring Events - 60 Tufts Street
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
2/11/2019	1	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at system influent/effluent and blower. -System flow rate.	No
4/17/2019	2	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at system influent/effluent and blower. -System flow rate.	No

General Notes:
1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VOC measurements collected with a ppm-RAE calibrated to 100 ppm isobutylene gas.
5. Pressure readings collected using a Dwyer 475-000-FM manometer.

Table 6-1. Summary of SSDS Monitoring Events - 50 Tufts Street
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

Monitoring Date	Monitoring Event per RMR Report Period	Type of Monitoring Event	SSDS Field Parameters Measured	Analytical Samples Collected (Yes/No)?
1/14/2019	1	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
2/11/2019	2	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at the combined influent, and effluent pipes. -Pressure readings and VOC concentrations at carbon tanks.	No
3/20/2019	3	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
4/17/2019	4	SSDS Quarterly Monitoring	-Pressure readings and VOC concentrations at the combined influent, and effluent pipes. -Pressure readings and VOC concentrations at carbon tanks. -System flow rate.	No
5/15/2019	5	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No
6/11/2019	6	SSDS Monthly Monitoring	-VOC concentrations at the combined influent, and effluent pipes. -VOC concentrations at carbon tanks.	No

General Notes:
1. SSDS = Sub-Slab Depressurization System.
2. RMR = Remedial Monitoring Report.
3. VOC = Volatile Organic Compound.
4. VFD = Variable Flow Drive.
5. SVT/SVE = Soil Vapor Temporary Point/Soil Vapor Extraction.
6. VOC measurements collected with a ppm-RAE calibrated to 100 parts per million (ppm) with 10.6V lamp.
7. Pressure readings collected using a Dwyer 475-000-FM manometer.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	5/15/2006		5/16/2006		5/23/2006		5/31/2006		7/24/2006		8/1/2006		8/3/2006	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	9.69	16.21	9.53	16.37	10.9	15	11.39	14.51	--	--	--	--	--	--
MW-2	unknown	25.38	8.99	16.39	10.36	15.02	Dry	Dry	Dry	Dry	--	--	--	--	--	--
MW-3	unknown	25.31	8.88	16.43	9.32	15.99	11.16	14.15	12.71	12.6	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	10.56	16.19	11.53	15.22	12.1	14.65	12.33	14.42	12.51	14.24	13.47	13.28
MW-102	6-16	18.89	--	--	6.62	12.27	6.86	12.03	7.44	11.45	7.93	10.96	8.16	10.73	9.11	9.78
MW-103	6-16	19.47	--	--	9.5	9.97	10.37	9.1	10.74	8.73	11.15	8.32	11.31	8.16	12.24	7.23
MW-104	5-15	17.67	--	--	--	--	7.93	9.74	8.89	8.78	9.06	8.61	9.39	8.28	10.29	7.38
MW-105	19-29	38.84	--	--	19.49	19.35	20.21	18.63	20.7	18.14	21.18	17.66	21.43	17.41	22.41	16.43
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108	2 - 12	12.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-109	3 - 13	24.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4-19	17.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-113	10-20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7-17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115	10-25	27.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-116	5-15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117T	35 - 45	21.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117D	60 - 70	21.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118S	3 - 14	15.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118T	39.5 - 49.5	15.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118D	70 - 80	15.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119S	5 - 20	11.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119T	42 - 47	11.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120S	5 - 20	12.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	9.69	16.19	9.9	15.98	10.92	14.96	11.36	14.52	--	--	--	--	--	--
GEO-2	5 - 20	26.54	9.76	16.78	--	--	11.38	15.16	11.91	14.63	--	--	--	--	--	--
GEO-3	5 - 20	25.64	10.43	15.21	9.59	16.05	9.87	15.77	10.67	14.97	11.67	13.97	11.85	13.79	12.84	12.8
GEO-4	4 - 19	21.69	--	--	7.79	13.9	9.85	11.84	10.78	10.91	11.25	10.44	11.45	10.24	12.43	9.26
GEO-5	5 - 20	20.14	--	--	6.78	13.36	9.08	11.06	9.96	10.18	10.29	9.85	10.56	9.58	11.51	8.63
GEO-6	5 - 20	17.62	--	--	5.66	11.96	7.39	10.23	8.23	9.39	8.43	9.19	8.73	8.89	9.64	7.98
SH-1	9 - 14	29.55	10.15	19.4	11.4	18.15	Dry	Dry	Dry	Dry	--	--	--	--	--	--
SH-2	7 - 14	29.64	5.71	23.93	7.86	21.78	12.07	17.57	12.22	17.42	--	--	--	--	--	--
SH-3	8 - 13	29.66	7.54	22.12	8.56	21.1	12.73	16.93	12.96	16.7	--	--	--	--	--	--
SH-4	11 - 16	29.63	13.53	16.1	13.48	16.15	14.48	15.15	15.02	14.61	--	--	--	--	--	--
SH-5	8 - 13	29.63	Dry	Dry	--	--	12.99	16.64	13.03	16.6	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	6.72	17.3	--	--	11.44	12.58	12.18	11.84	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	9.33	14.94	--	--	12.05	12.22	12.69	11.58	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	7.8	14.51	--	--	10.26	12.05	11.03	11.28	--	--	--	--	--	--
MW201	11-21	27.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW202	10.5-20.5	27.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203	6-18	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	8/16/2006		9/29/2006		10/4/2006		11/14/2006		12/12/2006		1/16/2007		2/12/2007	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	11.9	14	--	--	11.88	14.02	--	--	--	--	11.6	14.3	--	--
MW-2	unknown	25.38	Dry	Dry	--	--	--	--	--	--	--	--	Destroyed	Destroyed	--	--
MW-3	unknown	25.31	13.73	11.58	--	--	13.75	11.56	--	--	--	--	13.05	12.26	--	--
MW-101	9-19	26.75	12.78	13.97	12.85	13.9	12.76	13.99	12.25	14.5	12.57	14.18	12.4	14.35	12.81	13.94
MW-102	6-16	18.89	8.51	10.38	8.68	10.21	8.52	10.37	7.64	11.25	8.01	10.88	7.72	11.17	8.52	10.37
MW-103	6-16	19.47	11.72	7.75	11.98	7.49	11.92	7.55	11	8.47	11.21	8.26	10.88	8.59	11.74	7.73
MW-104	5-15	17.67	9.87	7.8	9.95	7.72	9.92	7.75	--	--	--	--	8.73	8.94	--	--
MW-105	19-29	38.84	21.91	16.93	22.27	16.57	22.18	16.66	21.16	17.68	21.76	17.08	21.46	17.38	22.03	16.81
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	12.27	14.06
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	--	--	4.54	10.09
MW-108	2 - 12	12.74	--	--	--	--	--	--	--	--	--	--	--	--	4.93	7.81
MW-109	3 - 13	24.12	--	--	--	--	--	--	--	--	--	--	--	--	12.07	12.05
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	--	--	5.99	9.59
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	--	--	11.38	7.57
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	Dry	Dry
MW-112a	4-19	17.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-113	10-20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7-17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115	10-25	27.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-116	5-15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117T	35 - 45	21.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117D	60 - 70	21.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118S	3 - 14	15.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118T	39.5 - 49.5	15.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-118D	70 - 80	15.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119S	5 - 20	11.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-119T	42 - 47	11.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120S	5 - 20	12.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	11.82	14.06	--	--	11.85	14.03	--	--	--	--	11.55	14.33	--	--
GEO-2	5 - 20	26.54	12.51	14.03	--	--	12.51	14.03	--	--	--	--	12.2	14.34	--	--
GEO-3	5 - 20	25.64	12.25	13.39	12.37	2.84	12.35	13.29	11.63	14.01	11.72	13.92	11.58	14.06	12.21	13.43
GEO-4	4 - 19	21.69	11.9	9.79	12.09	9.6	12.04	9.65	10.58	11.11	11.31	10.38	10.77	10.92	11.83	9.86
GEO-5	5 - 20	20.14	10.99	9.15	11.21	8.93	11.15	8.99	9.47	10.67	10.48	9.66	9.73	10.41	11.02	9.12
GEO-6	5 - 20	17.62	9.25	8.37	9.41	8.21	9.26	8.36	7.65	9.97	8.82	8.8	8.11	9.51	9.3	8.32
SH-1	9 - 14	29.55	Dry	Dry	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--
SH-2	7 - 14	29.64	11.98	17.66	--	--	12	17.64	--	--	--	--	Dry	Dry	--	--
SH-3	8 - 13	29.66	Dry	Dry	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--
SH-4	11 - 16	29.63	15.09	14.54	--	--	15.1	14.53	--	--	--	--	Dry	Dry	--	--
SH-5	8 - 13	29.63	Dry	Dry	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--
SH-MW1	10 - 30	24.02	13.09	10.93	--	--	13.17	10.85	--	--	--	--	12.21	11.81	--	--
SH-MW2	10 - 25	24.27	13.38	10.89	--	--	13.41	10.86	--	--	--	--	12.73	11.54	--	--
SH-MW3	10 - 24	22.31	13	9.31	--	--	12.04	10.27	--	--	--	--	11.04	11.27	--	--
MW201	11-21	27.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW202	10.5-20.5	27.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW203	6-18	21.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	3/14/2007		4/12/2007		5/29/2007		6/26/2007		7/16/2007		8/22/2007		9/27/2007		10/23/2007	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	11.39	14.51	11.41	14.49	11.8	14.1	12.04	13.86	--	--	12.26	13.64	12.07	13.83
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	12.57	12.74	14.89	10.42	13.6	11.71	13.94	11.37	--	--	14.34	10.97	13.94	11.37
MW-101	9-19	26.75	12.34	14.41	12.11	14.64	12.17	14.58	12.62	14.13	12.85	13.9	13.03	13.72	13.17	13.58	12.91	13.84
MW-102	6-16	18.89	--	--	7.46	11.43	6.72	12.17	8.36	10.53	8.74	10.15	9.08	9.81	9.35	9.54	8.97	9.92
MW-103	6-16	19.47	11	8.47	10.66	8.81	10.81	8.66	11.47	8.0	11.92	7.55	12.3	7.17	12.63	6.84	--	--
MW-104	5-15	17.67	--	--	8.75	8.92	--	--	9.62	8.05	10.09	7.58	10.36	7.31	10.61	7.06	10.31	7.36
MW-105	19-29	38.84	21.56	17.28	20.88	17.96	20.86	17.98	21.55	17.29	22.13	16.71	22.79	16.05	23.18	15.66	22.96	15.88
MW-106	9 - 19	26.33	12.91	13.42	11.65	14.68	11.69	14.64	12.07	14.26	12.33	14	12.48	13.85	12.61	13.72	12.39	13.94
MW-107	2 - 12	14.63	4.5	10.13	4.49	10.14	4.46	10.17	4.48	10.15	4.52	10.11	4.75	9.88	4.51	10.12	4.47	10.16
MW-108	2 - 12	12.74	4.02	8.72	9.91	2.83	4.25	8.49	5.06	7.68	6.59	6.15	6.25	6.49	6.28	6.46	5.86	6.88
MW-109	3 - 13	24.12	11.27	12.85	10.27	13.85	10.73	13.39	11.76	12.36	12.24	11.88	Dry	Dry	Dry	Dry	Dry	Dry
MW-110	3 - 13	15.58	1.46	14.12	1.04	14.54	2.56	13.02	6.57	9.01	7.17	8.41	7.86	7.72	8.37	7.21	6.92	8.66
MW-111	4 - 14	18.95	10.62	8.33	10.65	8.3	10.68	8.27	11.11	7.84	11.54	7.41	11.96	6.99	12.34	6.61	11.99	6.96
MW-112	3 - 10	18.16	8.01	10.15	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
MW-112a	4-19	17.78	12.76	5.02	12.76	5.02	12.67	5.11	12.81	4.97	12.88	4.9	--	--	12.95	4.83	12.8	4.98
MW-113	10-20	26.16	11.66	14.5	11.44	14.72	11.51	14.65	11.99	14.17	12.22	13.94	12.43	13.73	12.58	13.58	12.3	13.86
MW-114	7-17	29.43	12.67	16.76	11.27	18.16	11.53	17.9	12.88	16.55	15.57	13.86	14.24	15.19	14.84	14.59	14.66	14.77
MW-115	10-25	27.15	17.19	9.96	16.21	10.94	16.63	10.52	17.42	9.73	17.97	9.18	18.38	8.77	18.81	8.34	18.37	8.78
MW-116	5-15	13.45	8.78	4.67	8.34	5.11	8.65	4.8	8.76	4.69	--	--	8.85	4.6	8.91	4.54	8.83	4.62
MW-117S	5 - 20	21.94	--	--	--	--	--	--	--	--	15.27	6.67	15.7	6.24	16.03	5.91	16.2	5.74
MW-117T	35 - 45	21.87	--	--	--	--	--	--	--	--	15.95	5.92	16.38	5.49	16.81	5.06	16.91	4.96
MW-117D	60 - 70	21.78	--	--	--	--	--	--	--	--	15.87	5.91	16.26	5.52	16.69	5.09	16.77	5.01
MW-118S	3 - 14	15.52	--	--	--	--	--	--	--	--	11.64	3.88	9.84	5.68	10.2	5.32	9.42	6.1
MW-118T	39.5 - 49.5	15.30	--	--	--	--	--	--	--	--	10.36	4.94	10.51	4.79	10.74	4.56	10.68	4.62
MW-118D	70 - 80	15.15	--	--	--	--	--	--	--	--	10.18	4.97	10.32	4.83	10.55	4.6	10.49	4.66
MW-119S	5 - 20	11.74	--	--	--	--	--	--	--	--	--	--	4.91	6.83	4.99	6.75	4.93	6.81
MW-119T	42 - 47	11.67	--	--	--	--	--	--	--	--	--	--	6.45	5.22	6.8	4.87	6.72	4.95
MW-120S	5 - 20	12.54	--	--	--	--	--	--	--	--	--	--	5.25	7.29	5.35	7.19	4.71	7.83
MW-120D	28 - 38	12.45	--	--	--	--	--	--	--	--	--	--	--	--	4.21	8.24	3.94	8.51
MW-121S	5 - 20	12.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.36	5.08
MW-121D	32 - 47	12.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.92	4.89
MW-122	4 - 16	16.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	--	--	11.36	14.52	11.38	14.5	11.73	14.15	11.93	13.95	12.1	13.78	12.21	13.67	11.98	13.9
GEO-2	5 - 20	26.54	--	--	11.97	14.57	11.99	14.55	12.4	14.14	13.6	12.94	12.81	13.73	12.91	13.63	12.63	13.91
GEO-3	5 - 20	25.64	11.49	14.15	10.76	14.88	11.04	14.6	11.94	13.7	---	---	12.7	12.94	12.94	12.7	12.61	13.03
GEO-4	4 - 19	21.69	11.03	10.66	10.51	11.18	10.87	10.82	11.64	10.05	12.09	9.6	12.55	9.14	13.02	8.67	12.64	9.05
GEO-5	5 - 20	20.14	10.15	9.99	9.7	10.44	10.01	10.13	10.79	9.35	11.25	8.89	11.74	8.4	11.18	8.96	11.72	8.42
GEO-6	5 - 20	17.62	8.54	9.08	8.32	9.3	8.25	9.37	8.9	8.72	9.5	8.12	9.92	7.7	10.22	7.4	9.96	7.66
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	12.01	12.01	12.26	11.76	---	---	---	---	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	--	--	12.61	11.66	12.74	11.53	13.25	11.02	13.48	10.79	13.72	10.55	14.04	10.23	13.68	10.59
SH-MW3	10 - 24	22.31	--	--	10.81	11.5	--	--	11.72	10.59	12.08	10.23	12.43	9.88	12.79	9.52	12.41	9.9
MW201	11-21	27.51	--	--	--	--	--	--	--	--	--	--	13.71	13.8	13.83	13.68	13.58	13.93
MW202	10.5-20.5	27.82	--	--	--	--	--	--	--	--	--	--	13.99	13.83	14.08	13.74	13.88	13.94
MW203	6-18	21.80	--	--	--	--	--	--	--	--	--	--	14.05	7.75	14.39	7.41	13.86	7.94

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	11/30/2007		1/9/2008		2/26/2008		3/18/2008		4/15/2008		5/19/2008		7/14/08		8/22/08	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	11.95	13.95	--	--	--	--	--	--	11.42	14.48	11.57	14.33	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	---	--	--	--	--	--	--
MW-3	unknown	25.31	13.75	11.56	12.86	12.45	12.05	13.26	12.37	12.94	12.81	12.5	12.99	---	--	--	--	--
MW-101	9-19	26.75	13.82	12.93	12.11	14.64	--	--	11.85	14.9	12.02	14.73	12.26	14.49	13.11	13.64	--	--
MW-102	6-16	18.89	8.01	10.88	7.46	11.43	7.29	11.6	7.17	11.72	8.57	10.32	7.9	10.99	9.51	9.38	8.00	10.89
MW-103	6-16	19.47	12.18	7.29	10.74	8.73	10.51	8.96	10.5	8.97	10.82	8.65	11.11	8.36	12.17	7.30	11.17	8.30
MW-104	5-15	17.67	10.07	7.6	8.86	8.81	8.61	9.06	8.48	9.19	9.84	7.83	9.25	8.42	9.67	8.00	9.06	8.61
MW-105	19-29	38.84	22.74	16.1	21.39	17.45	20.79	18.05	20.41	18.43	20.91	17.93	21.24	17.6	22.02	16.82	21.40	17.44
MW-106	9 - 19	26.33	12.27	14.06	11.71	14.62	11.51	14.82	11.38	14.95	12.54	13.79	11.72	14.61	11.68	14.65	11.73	14.60
MW-107	2 - 12	14.63	4.44	10.19	4.35	10.28	--	--	4.46	10.17	5.58	9.05	---	---	4.52	10.11	4.41	10.22
MW-108	2 - 12	12.74	4.74	8.0	3.71	9.03	4.61	8.13	3.68	9.06	3.91	8.83	3.99	8.75	5.16	7.58	4.44	8.30
MW-109	3 - 13	24.12	12.78	11.34	10.64	13.48	10.06	14.06	10.02	14.1	11.64	12.48	11.29	12.83	11.87	12.25	11.18	12.94
MW-110	3 - 13	15.58	3.34	12.24	--	--	0.79	14.79	1.12	14.46	1.57	14.01	2.5	13.08	--	--	3.59	11.99
MW-111	4 - 14	18.95	12.27	6.68	10.51	8.44	10.5	8.45	10.54	8.41	16.64	2.31	10.71	8.24	12.23	6.72	10.73	8.22
MW-112	3 - 10	18.16	Dry	Dry	Dry	Dry	Dry	Dry	--	--	----	---	---	---	--	--	8.33	9.83
MW-112a	4-19	17.78	--	--	12.43	5.35	12.52	5.26	12.61	5.17	13.71	4.07	12.77	5.01	13.56	4.22	12.93	4.85
MW-113	10-20	26.16	12.6	13.56	11.5	14.66	11.28	14.88	11.15	15.01	11.39	14.77	11.62	14.54	12.01	14.15	11.63	14.53
MW-114	7-17	29.43	14.31	15.12	12.08	17.35	11.11	18.32	10.75	18.68	12.42	17.01	12.3	17.13	13.24	16.19	12.21	17.22
MW-115	10-25	27.15	18.24	8.91	16.18	10.97	15.85	11.3	15.86	11.29	16.45	10.7	16.72	10.43	18.49	8.66	16.78	10.37
MW-116	5-15	13.45	--	--	8.6	4.85	8.68	4.77	8.77	4.68	8.85	4.6	8.88	4.57	9.09	4.36	9.01	4.44
MW-117S	5 - 20	21.94	15.95	5.99	13.97	7.97	13.52	8.42	13.5	8.44	14.22	7.72	14.6	7.34	14.99	6.95	13.90	8.04
MW-117T	35 - 45	21.87	16.58	5.29	14.58	7.29	13.97	7.9	13.9	7.97	14.67	7.2	14.94	6.93	15.68	6.19	15.27	6.60
MW-117D	60 - 70	21.78	16.44	5.34	14.46	7.32	13.86	7.92	13.81	7.97	14.51	7.27	14.89	6.89	15.61	6.17	14.67	7.11
MW-118S	3 - 14	15.52	9.4	6.12	8.55	6.97	8.34	7.18	8.4	7.12	10	5.52	9.38	6.14	9.64	5.88	8.48	7.04
MW-118T	39.5 - 49.5	15.30	10.5	4.8	9.93	5.37	9.49	5.81	9.53	5.77	9.83	5.47	9.94	5.36	10.35	4.95	9.92	5.38
MW-118D	70 - 80	15.15	10.25	4.9	9.55	5.6	9.3	5.85	9.35	5.8	9.64	5.51	9.8	5.35	10.11	5.04	9.70	5.45
MW-119S	5 - 20	11.74	4.85	6.89	4.63	7.11	4.6	7.14	4.56	7.18	4.91	6.83	4.92	6.82	4.94	6.80	6.08	5.66
MW-119T	42 - 47	11.67	6.57	5.1	5.82	5.85	5.63	6.04	5.78	5.89	5.97	5.7	6.1	5.57	6.52	5.15	4.52	7.15
MW-120S	5 - 20	12.54	4.62	7.92	3.51	9.03	4.06	8.48	4.0	8.54	5.1	7.44	4.57	7.97	5.18	7.36	4.61	7.93
MW-120D	28 - 38	12.45	3.48	8.97	3.17	9.28	2.96	9.49	3.11	9.34	3.26	9.19	3.44	9.01	3.82	8.63	2.90	9.55
MW-121S	5 - 20	12.44	7.41	5.03	7.24	5.2	7.36	5.08	7.41	5.03	9.39	3.05	7.29	5.15	9.21	3.23	7.70	4.74
MW-121D	32 - 47	12.81	7.75	5.06	6.95	5.86	6.83	5.98	6.91	5.9	7.31	5.5	7.27	5.54	7.64	5.17	7.30	5.51
MW-122	4 - 16	16.42	--	--	--	--	12.98	3.44	13	3.42	13.03	3.39	12.99	3.43	13.15	3.27	13.17	3.25
GEO-1	5 - 20	25.88	11.91	13.97	11.41	14.47	11.22	14.66	--	--	11.25	14.63	11.4	14.48	12.32	13.56	12.00	13.88
GEO-2	5 - 20	26.54	12.57	13.97	12.02	14.52	11.77	14.77	--	--	12.81	13.73	12.01	14.53	11.73	14.81	11.41	15.13
GEO-3	5 - 20	25.64	12.54	13.1	10.99	14.65	10.71	14.93	--	--	10.97	14.67	---	---	12.05	13.59	11.57	14.07
GEO-4	4 - 19	21.69	12.47	9.22	11.72	9.97	10.36	11.33	10.34	11.35	11.46	10.23	11.13	10.56	11.60	10.09	11.16	10.53
GEO-5	5 - 20	20.14	12.62	7.52	9.92	10.22	9.42	10.72	9.52	10.62	10.8	9.34	10.21	9.93	10.89	9.25	10.28	9.86
GEO-6	5 - 20	17.62	9.96	7.66	8.21	9.41	7.78	9.84	7.86	9.76	9.11	8.51	8.51	9.11	9.20	8.42	7.91	9.71
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	---	---	---	---	--	--	--	--
SH-MW2	10 - 25	24.27	13.85	10.42	12.77	11.5	12.49	11.78	12.46	11.81	13.62	10.65	12.89	11.38	11.83	12.44	12.92	11.35
SH-MW3	10 - 24	22.31	12.05	10.26	11.55	10.76	10.68	11.63	10.65	11.66	11.83	10.48	11.21	11.1	13.27	9.04	11.30	11.01
MW201	11-21	27.51	13.5	14.01	12.98	14.53	12.76	14.75	12.64	14.87	12.85	14.66	13.94	13.57	13.31	14.2	13.00	14.51
MW202	10.5-20.5	27.82	13.81	14.01	13.41	14.41	13.22	14.6	13.12	14.7	12.73	15.09	13.37	14.45	13.68	14.14	13.41	14.41
MW203	6-18	21.80	13.61	8.19	12.86	8.94	12.03	9.77	12	9.8	13.31	8.49	12.68	9.12	13.15	8.65	12.55	9.25

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	10/20/08		1/13/09		4/13/09		7/14/09		10/14/09		4/12/10		10/27/10		4/20/11	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	12.49	12.82	12.28	13.03	12.92	12.39	13.19	12.12	--	--	--	--	--	--
MW-101	9-19	26.75	12.61	14.14	12.07	14.68	11.91	14.84	12.2	14.55	12.37	14.38	11.61	15.14	--	--	11.73	15.02
MW-102	6-16	18.89	8.49	10.4	7.50	11.39	7.35	11.54	7.85	11.04	7.99	10.9	7.11	11.78	--	--	7.04	11.85
MW-103	6-16	19.47	11.87	7.6	10.73	8.74	10.57	8.9	11.07	8.4	11.34	8.13	10.47	9.00	--	--	10.39	9.08
MW-104	5-15	17.67	9.72	7.95	8.71	8.96	7.98	9.69	8.84	8.83	9.38	8.29	8.52	9.15	--	--	9.28	8.39
MW-105	19-29	38.84	21.8	17.04	20.9	17.94	20.65	18.19	21.4	17.44	21.8	17.04	19.84	19.00	--	--	20.63	18.21
MW-106	9 - 19	26.33	11.64	14.69	11.6	14.73	11.49	14.84	overflowing	--	overflowing	--	11.16	15.17	--	--	11.39	14.94
MW-107	2 - 12	14.63	4.49	10.14	4.5	10.13	4.47	10.16	overflowing	--	overflowing	--	4.31	10.32	--	--	4.43	10.2
MW-108	2 - 12	12.74	4.71	8.03	3.4	9.34	3.73	9.01	4.37	8.37	4.66	8.08	3.86	8.88	--	--	3.56	9.18
MW-109	3 - 13	24.12	11.73	12.39	10.43	13.69	10.4	13.72	11.11	13.01	--	--	9.88	14.24	--	--	10.10	14.02
MW-110	3 - 13	15.58	--	--	1.45	14.13	1.1	14.48	2.88	12.7	2.42	13.16	1.39	14.19	--	--	1.67	13.91
MW-111	4 - 14	18.95	11.37	7.58	10.55	8.4	10.56	8.39	10.67	8.28	10.41	8.54	10.57	8.38	--	--	10.62	8.33
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4-19	17.78	13.01	4.77	12.78	5.0	12.63	5.15	12.78	5.0	12.58	5.2	12.62	5.16	12.31	5.47	12.14	5.64
MW-113	10-20	26.16	11.99	14.17	11.41	14.75	11.23	14.93	11.56	14.6	11.73	14.43	10.93	15.23	--	--	11.00	15.16
MW-114	7-17	29.43	13.19	16.24	11.25	18.18	10.97	18.46	12.04	17.39	--	--	10.24	19.19	--	--	10.46	18.97
MW-115	10-25	27.15	17.8	9.35	16.35	10.8	15.4	11.75	16.58	10.57	17.4	9.75	16.43	10.72	--	--	16.22	10.93
MW-116	5-15	13.45	--	--	8.94	--	8.87	4.58	8.97	4.48	8.76	4.69	8.85	4.6	--	--	8.32	5.13
MW-117S	5 - 20	21.94	14.67	7.27	14.02	7.92	14.38	7.56	14.66	7.28	14.75	7.19	13.32	8.62	--	--	14.06	7.88
MW-117T	35 - 45	21.87	15.26	6.61	14.45	7.42	14.43	7.44	15.03	6.84	15.26	6.61	13.56	8.31	--	--	14.18	7.69
MW-117D	60 - 70	21.78	15.27	6.51	14.3	7.48	14.26	7.52	14.89	6.89	15.13	6.65	13.48	8.3	--	--	14.01	7.77
MW-118S	3 - 14	15.52	9.05	6.47	8.41	7.11	8.7	6.82	9.43	6.09	9.01	6.51	8.31	7.21	--	--	8.55	6.97
MW-118T	39.5 - 49.5	15.30	10.19	5.11	9.73	5.57	9.64	5.66	9.92	5.38	9.99	5.31	9.49	5.81	--	--	9.33	5.97
MW-118D	70 - 80	15.15	9.99	5.16	9.54	5.61	9.47	5.68	9.74	5.41	9.73	5.42	9.29	5.86	--	--	9.15	6.00
MW-119S	5 - 20	11.74	4.08	7.66	4.41	7.33	4.21	7.53	4.47	7.27	4.33	7.41	4.33	7.41	--	--	4.08	7.66
MW-119T	42 - 47	11.67	6.78	4.89	5.85	5.82	5.8	5.87	6.04	5.63	6.01	5.66	5.68	5.99	--	--	5.55	6.12
MW-120S	5 - 20	12.54	4.01	8.53	4.03	8.51	3.85	8.69	4.31	8.23	3.58	8.96	3.98	8.56	--	--	3.65	8.89
MW-120D	28 - 38	12.45	3.32	9.13	3.18	9.27	3.11	9.34	3.31	9.14	3.29	9.16	3.04	9.41	--	--	3.18	9.27
MW-121S	5 - 20	12.44	9.01	3.43	7.68	4.76	7.57	4.87	7.62	4.82	7.71	4.73	7.67	4.77	--	--	7.12	5.32
MW-121D	32 - 47	12.81	9.64	3.17	7.07	5.74	6.98	5.83	7.27	5.54	7.37	5.44	6.87	5.94	--	--	6.77	6.04
MW-122	4 - 16	16.42	11.42	5.0	13.15	3.27	13.16	3.26	13.14	3.28	13.12	3.3	13.09	3.33	13.04	3.38	13.06	3.36
GEO-1	5 - 20	25.88	12.14	13.74	11.26	14.62	11.07	14.81	11.31	14.57	11.54	14.34	17.06	8.82	--	--	10.92	14.96
GEO-2	5 - 20	26.54	11.58	14.96	11.88	14.66	11.7	14.84	11.99	14.55	12.25	14.29	11.41	15.13	--	--	10.55	15.99
GEO-3	5 - 20	25.64	--	--	--	--	10.86	14.78	11.48	14.16	11.79	13.85	10.27	15.37	--	--	10.62	15.02
GEO-4	4 - 19	21.69	11.89	9.8	10.56	11.13	10.21	11.48	11.00	10.69	--	--	10.26	11.43	--	--	--	--
GEO-5	5 - 20	20.14	11.79	8.35	9.70	10.44	9.30	10.84	10.08	10.06	10.44	9.7	9.48	10.66	--	--	9.18	10.96
GEO-6	5 - 20	17.62	10.95	6.67	8.02	9.6	7.48	10.14	8.18	9.44	8.66	8.96	7.62	10	--	--	7.63	9.99
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.01	12.26	12.63	11.64	12.33	11.94	12.77	11.5	13.01	11.26	10.61	13.66	--	--	12.29	11.98
SH-MW3	10 - 24	22.31	12.49	9.82	10.87	11.44	10.52	11.79	11.12	11.19	11.46	10.85	12.39	9.92	--	--	10.46	11.85
MW201	11-21	27.51	14.64	12.87	13.27	14.24	12.69	14.82	12.94	14.57	13.09	14.42	12.42	15.09	--	--	12.57	14.94
MW202	10.5-20.5	27.82	13.29	14.53	12.82	15	13.15	14.67	13.33	14.49	13.55	14.27	12.94	14.88	--	--	13.02	14.80
MW203	6-18	21.80	13.02	8.78	12.25	9.55	11.5	10.3	12.29	9.51	12.77	9.03	12.03	9.77	--	--	11.83	9.97

General Notes:

1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	11/16/11		4/16/12		11/12/12		4/23/13		11/18/13		4/30/14		6/11/14		11/18/14	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	12.71	14.04	--	--	12.41	14.34	--	--	12.03	14.72	--	--	--	--
MW-102	6-16	18.89	--	--	8.53	10.36	--	--	8.01	10.88	--	--	7.68	11.21	--	--	--	--
MW-103	6-16	19.47	--	--	11.79	7.68	--	--	11.22	8.25	--	--	10.96	8.51	--	--	--	--
MW-104	5-15	17.67	--	--	10.24	7.43	--	--	9.64	8.03	--	--	9.5	8.17	--	--	--	--
MW-105	19-29	38.84	--	--	--	--	--	--	21.31	17.53	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	11.71	14.62	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	3.61	11.02	--	--	--	--
MW-108	2 - 12	12.74	--	--	4.72	8.02	--	--	4.34	8.4	--	--	4.09	8.65	--	--	--	--
MW-109	3 - 13	24.12	--	--	12.15	11.97	--	--	11.37	12.75	--	--	10.79	13.33	--	--	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	2.61	12.97	--	--	--	--
MW-111	4 - 14	18.95	--	--	11.6	7.35	--	--	11.01	7.94	--	--	10.96	7.99	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4-19	17.78	12.30	5.48	12.70	5.08	12.72	5.06	12.80	4.98	13.11	4.67	--	--	12.86	4.92	12.39	5.39
MW-113	10-20	26.16	--	--	12.11	14.05	--	--	11.73	14.43	--	--	11.42	14.74	--	--	--	--
MW-114	7-17	29.43	--	--	13.70	15.73	--	--	12.24	17.19	--	--	12.05	17.38	--	--	--	--
MW-115	10-25	27.15	--	--	18.51	8.64	--	--	17.76	9.39	--	--	17.51	9.64	--	--	--	--
MW-116	5-15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S	5 - 20	21.94	--	--	9.06	12.88	--	--	14.39	7.55	--	--	13.63	8.31	--	--	--	--
MW-117T	35 - 45	21.87	--	--	15.58	6.29	--	--	15.19	6.68	--	--	14.78	7.09	--	--	--	--
MW-117D	60 - 70	21.78	--	--	15.81	5.97	--	--	15.09	6.69	--	--	14.71	7.07	--	--	--	--
MW-118S	3 - 14	15.52	--	--	9.66	5.86	--	--	9.41	6.11	--	--	9.01	6.51	--	--	--	--
MW-118T	39.5 - 49.5	15.30	--	--	10.30	5	--	--	10.12	5.18	--	--	9.94	5.36	--	--	--	--
MW-118D	70 - 80	15.15	--	--	10.11	5.04	10.03	5.12	10.00	5.15	10.73	4.42	9.82	5.33	--	--	10.20	4.95
MW-119S	5 - 20	11.74	--	--	5.14	6.6	--	--	4.70	7.04	--	--	4.31	7.43	--	--	--	--
MW-119T	42 - 47	11.67	--	--	6.50	5.17	--	--	6.25	5.42	--	--	6.11	5.56	--	--	--	--
MW-120S	5 - 20	12.54	--	--	4.78	7.76	--	--	4.26	8.28	--	--	4.19	8.35	--	--	--	--
MW-120D	28 - 38	12.45	--	--	3.87	8.58	--	--	3.40	9.05	--	--	4.41	8.04	--	--	--	--
MW-121S	5 - 20	12.44	--	--	7.26	5.18	--	--	6.93	5.51	--	--	5.95	6.49	--	--	--	--
MW-121D	32 - 47	12.81	--	--	7.69	5.12	7.55	5.26	7.41	5.4	8.13	4.68	7.35	5.46	--	--	7.27	5.54
MW-122	4 - 16	16.42	13.16	3.26	13.1	3.32	13.16	3.26	13.14	3.28	13.12	3.3	13.12	3.30	--	--	13.04	3.38
GEO-1	5 - 20	25.88	--	--	--	--	--	--	11.50	14.38	--	--	11.19	14.69	--	--	--	--
GEO-2	5 - 20	26.54	--	--	11.81	14.73	--	--	12.19	14.35	--	--	11.99	14.55	--	--	--	--
GEO-3	5 - 20	25.64	--	--	12.21	13.43	--	--	11.57	14.07	--	--	11.10	14.54	--	--	--	--
GEO-4	4 - 19	21.69	--	--	11.98	9.71	--	--	11.29	10.4	--	--	11.09	10.6	--	--	--	--
GEO-5	5 - 20	20.14	--	--	11.18	8.96	--	--	10.45	9.69	--	--	10.25	9.89	--	--	--	--
GEO-6	5 - 20	17.62	--	--	9.54	8.08	--	--	8.56	9.06	--	--	8.30	9.32	--	--	--	--
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	--	--	13.53	10.74	--	--	13.13	11.14	--	--	12.95	11.32	--	--	--	--
SH-MW3	10 - 24	22.31	--	--	12.00	10.31	--	--	11.43	10.88	--	--	11.23	11.08	--	--	--	--
MW201	11-21	27.51	--	--	13.43	14.08	--	--	13.15	14.36	--	--	12.97	14.54	--	--	--	--
MW202	10.5-20.5	27.82	--	--	--	--	--	--	13.54	14.28	--	--	13.32	14.50	--	--	--	--
MW203	6-18	21.80	--	--	13.85	7.95	--	--	13.15	8.65	--	--	12.92	8.88	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	4/1/15		4/17/15		11/19/15		4/27/16		11/21/16		4/14/17		11/8/17		1/31/18	
Monitoring Well ID	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)	Depth to GW (ft)	Elevation of GW (ft NAVD)
MW-1	unknown	25.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-102	6-16	18.89	6.99	11.9	--	--	--	--	8.02	10.87	--	--	--	--	--	--	7.94	10.95
MW-103	6-16	19.47	10.43	9.04	--	--	--	--	11.49	7.98	--	--	--	--	--	--	11.12	8.35
MW-104	5-15	17.67	8.04	9.63	--	--	--	--	10.63	7.04	--	--	9.05	8.62	--	--	11.99	5.68
MW-105	19-29	38.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	4.49	10.14	--	--	4.51	10.12	--	--	4.56	10.07
MW-108	2 - 12	12.74	3.31	9.43	--	--	--	--	4.11	8.63	--	--	3.78	8.96	--	--	4.02	8.72
MW-109	3 - 13	24.12	9.61	14.51	--	--	--	--	11.25	12.87	--	--	9.86	14.26	--	--	11.02	13.10
MW-110	3 - 13	15.58	0.60	14.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111	4 - 14	18.95	10.80	8.15	--	--	--	--	11.50	7.45	--	--	Dry	Dry	--	--	Dry	Dry
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	6.44	11.72	--	--	--	--
MW-112a	4-19	17.78	--	--	12.86	4.92	--	--	11.14	6.64	13.12	4.66	12.88	4.90	15.32	2.46	12.85	4.93
MW-113	10-20	26.16	10.64	15.52	--	--	--	--	11.65	14.51	--	--	10.83	15.33	--	--	13.90	12.26
MW-114	7-17	29.43	10.06	19.37	--	--	--	--	12.45	16.98	--	--	10.70	18.73	--	--	12.89	16.54
MW-115	10-25	27.15	16.50	10.65	--	--	--	--	18.23	8.92	--	--	17.33	9.82	--	--	18.17	8.98
MW-116	5-15	13.45	--	--	--	--	--	--	9.34	4.11	--	--	9.18	4.27	--	--	9.22	4.23
MW-117S	5 - 20	21.94	9.66	12.28	--	--	--	--	14.09	7.85	--	--	12.49	9.45	--	--	16.65	5.29
MW-117T	35 - 45	21.87	13.95	7.92	--	--	--	--	15.59	6.28	--	--	14.36	7.51	--	--	17.76	4.11
MW-117D	60 - 70	21.78	13.88	7.90	--	--	--	--	--	--	--	--	12.93	8.85	--	--	12.11	9.67
MW-118S	3 - 14	15.52	8.04	7.48	--	--	--	--	9.30	6.22	--	--	8.37	7.15	--	--	12.17	3.35
MW-118T	39.5 - 49.5	15.30	9.63	5.67	--	--	--	--	10.37	4.93	--	--	9.80	5.5	--	--	12.45	2.85
MW-118D	70 - 80	15.15	9.47	5.68	--	--	11.99	3.16	10.20	4.95	10.42	4.73	9.61	5.54	10.27	4.88	--	--
MW-119S	5 - 20	11.74	4.16	7.58	--	--	--	--	4.64	7.10	--	--	4.43	7.31	--	--	--	--
MW-119T	42 - 47	11.67	5.80	5.87	--	--	--	--	6.43	5.24	--	--	5.95	5.72	--	--	--	--
MW-120S	5 - 20	12.54	3.54	9.00	--	--	--	--	3.16	9.38	--	--	3.91	8.63	--	--	5.72	6.82
MW-120D	28 - 38	12.45	3.10	9.35	--	--	--	--	3.68	8.77	--	--	3.19	9.26	--	--	6.30	6.15
MW-121S	5 - 20	12.44	6.77	5.67	--	--	--	--	--	--	--	--	7.73	4.71	--	--	7.76	4.68
MW-121D	32 - 47	12.81	7.01	5.80	--	--	8.83	3.98	--	--	7.85	4.96	7.17	5.64	7.75	5.06	7.50	5.31
MW-122	4 - 16	16.42	13.15	3.27	--	--	13.23	3.19	13.19	3.23	13.21	3.21	13.18	3.24	13.17	3.25	13.19	3.23
GEO-1	5 - 20	25.88	10.69	15.19	--	--	--	--	11.39	14.49	--	--	10.75	15.13	--	--	--	--
GEO-2	5 - 20	26.54	11.34	15.20	--	--	--	--	12.18	14.36	--	--	11.51	15.03	--	--	--	--
GEO-3	5 - 20	25.64	9.92	15.72	--	--	--	--	--	--	--	--	10.25	15.39	--	--	11.40	14.24
GEO-4	4 - 19	21.69	10.17	11.52	--	--	--	--	11.61	10.08	--	--	10.59	11.1	--	--	11.20	10.49
GEO-5	5 - 20	20.14	9.29	10.85	--	--	--	--	10.94	9.20	--	--	9.81	10.33	--	--	10.44	9.70
GEO-6	5 - 20	17.62	7.84	9.78	--	--	--	--	9.72	7.90	--	--	8.42	9.2	--	--	9.12	8.50
SH-1	9 - 14	29.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.41	11.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SH-MW3	10 - 24	22.31	10.55	11.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW201	11-21	27.51	12.40	15.11	--	--	--	--	13.15	14.36	--	--	--	--	--	--	15.36	12.15
MW202	10.5-20.5	27.82	12.93	14.89	--	--	--	--	13.53	14.29	--	--	--	--	--	--	15.77	12.05
MW203	6-18	21.80	12.05	9.75	--	--	--	--	13.93	7.87	--	--	--	--	--	--	15.76	6.04

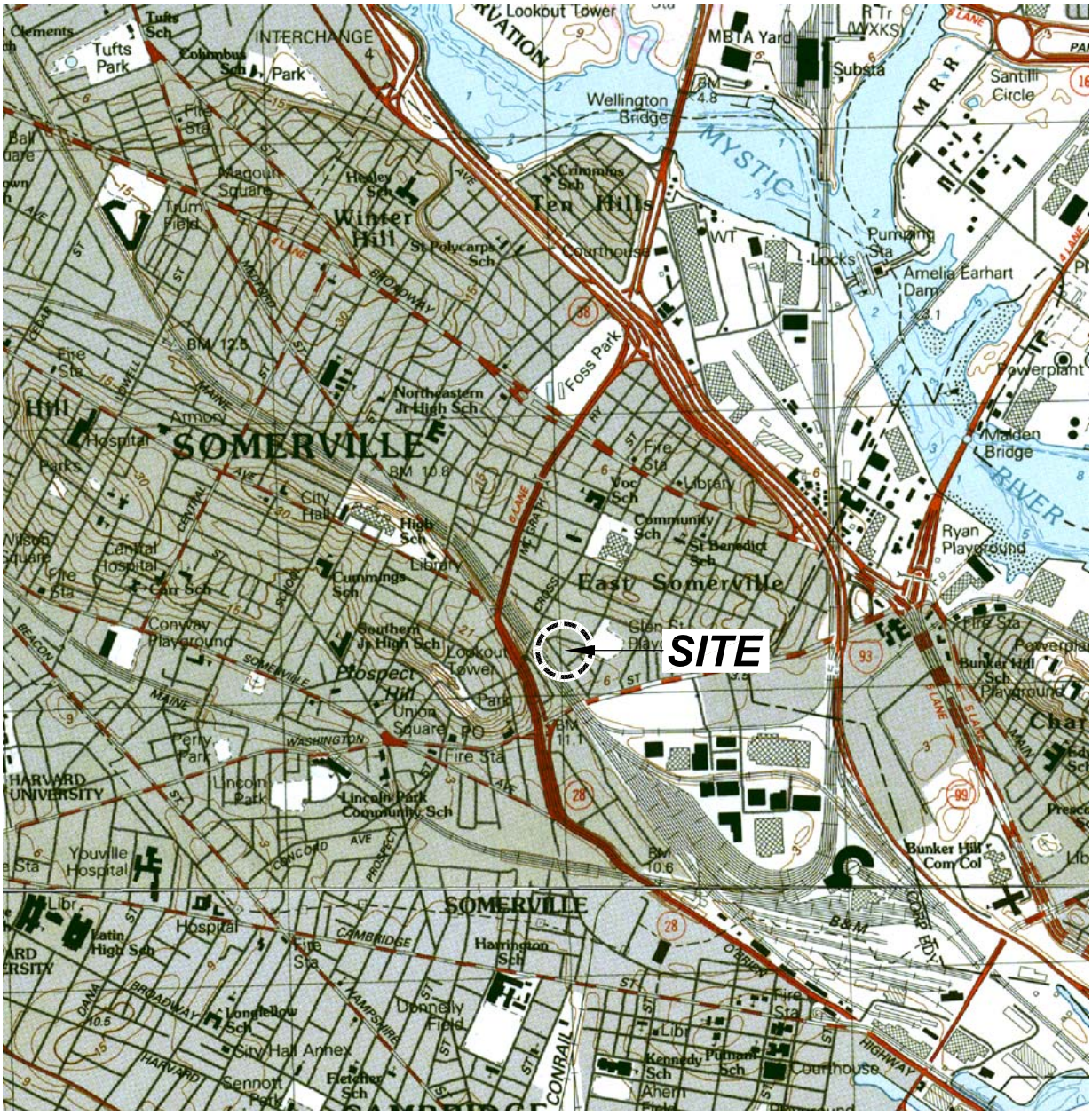
General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

Table 7-1. Groundwater Elevations
Phase V Status Report No. 16 and Remedial Monitoring Report No. 31
50 Tufts Street
Somerville, Massachusetts

		Gauging Date:	4/2/18		11/15/18		4/15/19	
Monitoring Well ID	**Well Screen Interval (ft bgs)**	**Elevation of Measuring Point (ft NAVD)**	**Depth to GW (ft)**	**Elevation of GW (ft NAVD)**	**Depth to GW (ft)**	**Elevation of GW (ft NAVD)**	**Depth to GW (ft)**	**Elevation of GW (ft NAVD)**
MW-1	unknown	25.90	--	--	--	--	--	--
MW-2	unknown	25.38	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	--	--	--	--
MW-101	9-19	26.75	--	--	--	--	--	--
MW-102	6-16	18.89	7.58	11.31	--	--	7.21	11.68
MW-103	6-16	19.47	10.81	8.66	--	--	7.26	12.21
MW-104	5-15	17.67	9.21	8.46	--	--	--	--
MW-105	19-29	38.84	--	--	--	--	--	--
MW-106	9 - 19	26.33	--	--	--	--	--	--
MW-107	2 - 12	14.63	4.51	10.12	--	--	4.74	9.89
MW-108	2 - 12	12.74	4.05	8.69	--	--	3.95	8.79
MW-109	3 - 13	24.12	10.51	13.61	--	--	10.62	13.5
MW-110	3 - 13	15.58	--	--	--	--	--	--
MW-111	4 - 14	18.95	NF	NF	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	5.05	13.11
MW-112a	4-19	17.78	--	--	13.09	4.69	12.3	5.48
MW-113	10-20	26.16	11.35	14.81	--	--	--	--
MW-114	7-17	29.43	11.29	18.14	--	--	--	--
MW-115	10-25	27.15	17.66	9.49	--	--	1696	-1668.85
MW-116	5-15	13.45	9.14	4.31	--	--	8.35	5.1
MW-117S	5 - 20	21.94	13.07	8.87	--	--	9.19	12.75
MW-117T	35 - 45	21.87	14.75	7.12	--	--	14.46	7.41
MW-117D	60 - 70	21.78	13.5	8.28	--	--	11.76	10.02
MW-118S	3 - 14	15.52	8.75	6.77	--	--	9.84	5.68
MW-118T	39.5 - 49.5	15.30	9.96	5.34	--	--	9.52	5.78
MW-118D	70 - 80	15.15	9.74	5.41	9.23	5.92	9.31	5.84
MW-119S	5 - 20	11.74	4.56	7.18	--	--	4.05	7.69
MW-119T	42 - 47	11.67	6.12	5.55	--	--	5.86	5.81
MW-120S	5 - 20	12.54	3.97	8.57	--	--	3.85	8.69
MW-120D	28 - 38	12.45	3.41	9.04	--	--	3.21	9.24
MW-121S	5 - 20	12.44	7.32	5.12	--	--	6.8	5.64
MW-121D	32 - 47	12.81	7.74	5.07	6.79	6.02	6.94	5.87
MW-122	4 - 16	16.42	13.13	3.29	13.17	3.25	12.81	3.61
GEO-1	5 - 20	25.88	11.11	14.77	--	--	11.1	14.78
GEO-2	5 - 20	26.54	11.83	14.71	--	--	12.98	13.56
GEO-3	5 - 20	25.64	10.79	14.85	--	--	11.06	14.58
GEO-4	4 - 19	21.69	11.20	10.49	--	--	10.72	10.97
GEO-5	5 - 20	20.14	10.2	9.94	--	--	7.55	12.59
GEO-6	5 - 20	17.62	8.67	8.95	--	--	8.23	9.39
SH-1	9 - 14	29.55	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	--	--	--	--
SH-MW2	10 - 25	24.27	12.84	11.43	--	--	12.55	11.72
SH-MW3	10 - 24	22.31	--	--	--	--	--	--
MW201	11-21	27.51	13.34	14.17	--	--	12.92	14.59
MW202	10.5-20.5	27.82	12.86	14.96	--	--	13.3	14.52
MW203	6-18	21.80	12.98	8.82	--	--	--	--

General Notes:
1. ft = feet.
2. bgs = below ground surface.
3. ID = identification.
4 GW = groundwater.
5. NAVD = North American Vertical Datum of 1988.
6. The top of the PVC riser was used as the measuring point for depth to groundwater.
7. "--" = Well not yet installed, abandoned, or not measured.

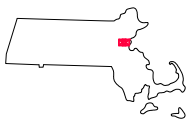
Figures



0 1000 2000 4000 6000

SCALE, FEET

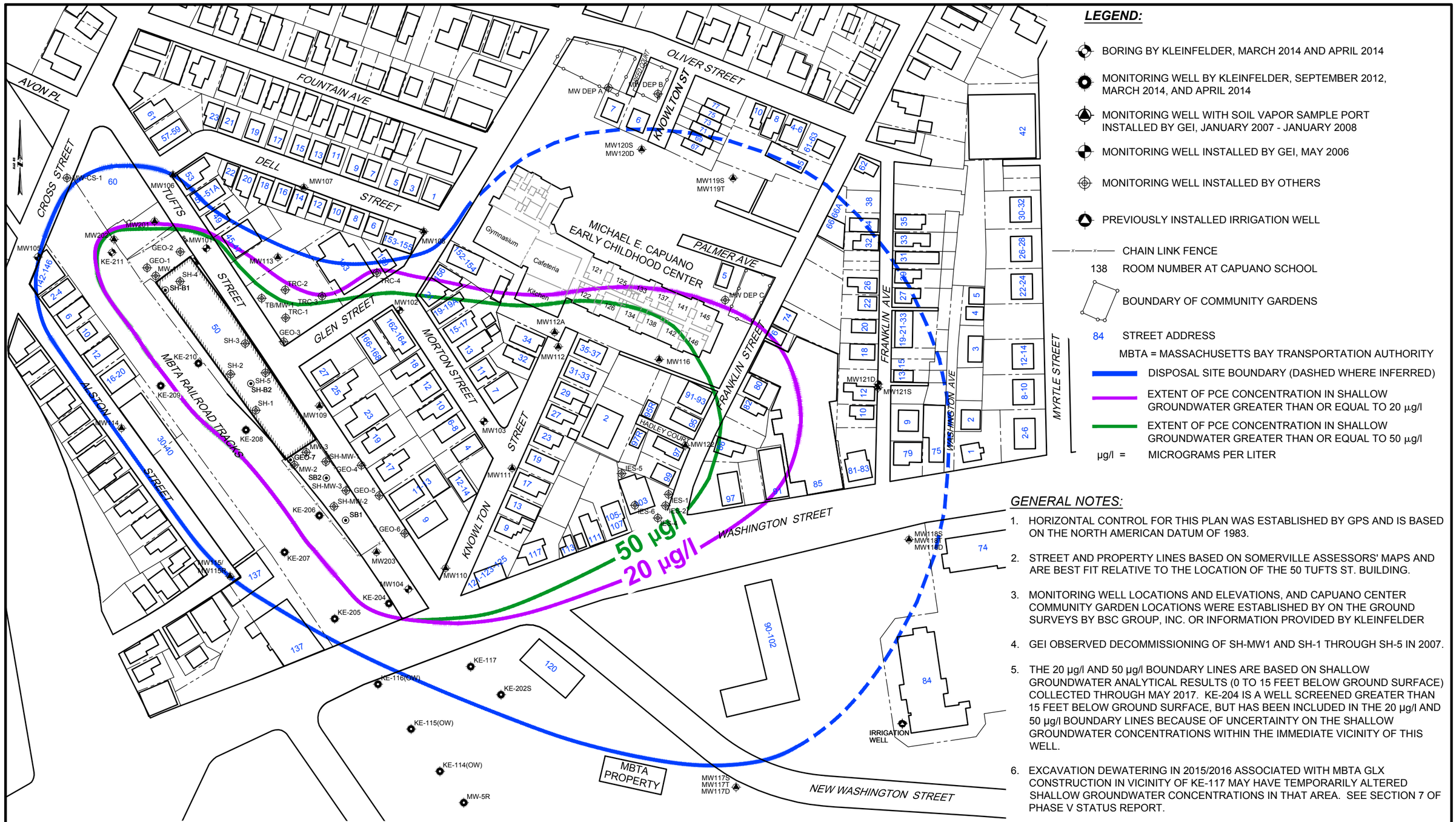
This Image provided by MassGIS is from U.S.G.S.
Topographic 7.5 X 15 Minute Series
Boston North, MA Quadrangle, 1985.
Datum is National Geodetic Vertical Datum of 1929 (NGVD29).
Contour Interval is 3 Meters.



MASSACHUSETTS
QUADRANGLE LOCATION

Phase V Status Report No. 16 and Remedial Monitoring Report No. 31 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SITE LOCATION MAP
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	August 2019 Fig. 1-1

N:\04516\#Drafting\04516-3\Phase V SR 16\045163 PhV SR16 Fig 1-1



LEGEND:

- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY OTHERS
- PREVIOUSLY INSTALLED IRRIGATION WELL
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
- DISPOSAL SITE BOUNDARY (DASHED WHERE INFERRED)
- EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 20 µg/l
- EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 50 µg/l
- µg/l = MICROGRAMS PER LITER

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER
4. GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.
5. THE 20 µg/l AND 50 µg/l BOUNDARY LINES ARE BASED ON SHALLOW GROUNDWATER ANALYTICAL RESULTS (0 TO 15 FEET BELOW GROUND SURFACE) COLLECTED THROUGH MAY 2017. KE-204 IS A WELL SCREENED GREATER THAN 15 FEET BELOW GROUND SURFACE, BUT HAS BEEN INCLUDED IN THE 20 µg/l AND 50 µg/l BOUNDARY LINES BECAUSE OF UNCERTAINTY ON THE SHALLOW GROUNDWATER CONCENTRATIONS WITHIN THE IMMEDIATE VICINITY OF THIS WELL.
6. EXCAVATION DEWATERING IN 2015/2016 ASSOCIATED WITH MBTA GLX CONSTRUCTION IN VICINITY OF KE-117 MAY HAVE TEMPORARILY ALTERED SHALLOW GROUNDWATER CONCENTRATIONS IN THAT AREA. SEE SECTION 7 OF PHASE V STATUS REPORT.

0 150 300

SCALE, FEET

Phase V Status Report No. 16 and
Remedial Monitoring Report No. 31
50 Tufts Street Somerville, Massachusetts
UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

DISPOSAL SITE MAP
AND SITE BOUNDARY

Project 04516-3 | August 2019 | Fig. 1-2

N:\04516\#Drafting\04516-3\Phase V SR 16\045163 PhV SR16 Fig 1-2

LEGEND:

- BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED BY OTHERS
- PREVIOUSLY INSTALLED IRRIGATION WELL
- —x— CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
- MONITORING WELL SAMPLED BY GEI DURING THIS REPORTING PERIOD

GENERAL NOTES:

1. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
2. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
3. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
4. STREET PROPERTY LINES, AND BUILDINGS ARE BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
5. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

Phase V Status Report No. 16 and
Remedial Monitoring Report No. 31
50 Tufts Street Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

MONITORING WELL LOCATIONS

Project 04516-3 | August 2019 | Fig. 2-1

N:\04516\#Drafting\04516-3\Phase V SR 16\045163 PhV SR16 Fig 2-1

LEGEND:

SOIL VAPOR SAMPLED

INDOOR AIR SAMPLED

0 60 120 240

SCALE, FEET

Phase V Status Report No. 16 and
Remedial Monitoring Report No. 31
50 Tufts Street, Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

SUB-SLAB SOIL VAPOR AND INDOOR AIR SAMPLING

Project 04516-3 | August 2019 | Fig. 2-2

N:\04516\20.0 GIS Data\Map_Files\Phase IV Status Fig 2-2 IA and SV sampling.mxd

LEGEND:

EPMM STATUS

- EPMM INSTALLED (ACTIVE)
- EPMM INSTALLED (OTHER EPMM)

N

0 45 90 180

SCALE, FEET

Phase V Status Report No. 16 and Remedial Monitoring Report No. 31 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	EPMM INSTALLATION PROGRESS
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	August 2019 Fig. 4-1

N:\04516\20.0 GIS Data\Map_Files\Tufts_St_GIS_Master_Map.mxd

Preferred Criteria For:

Option 1 (SSDS):

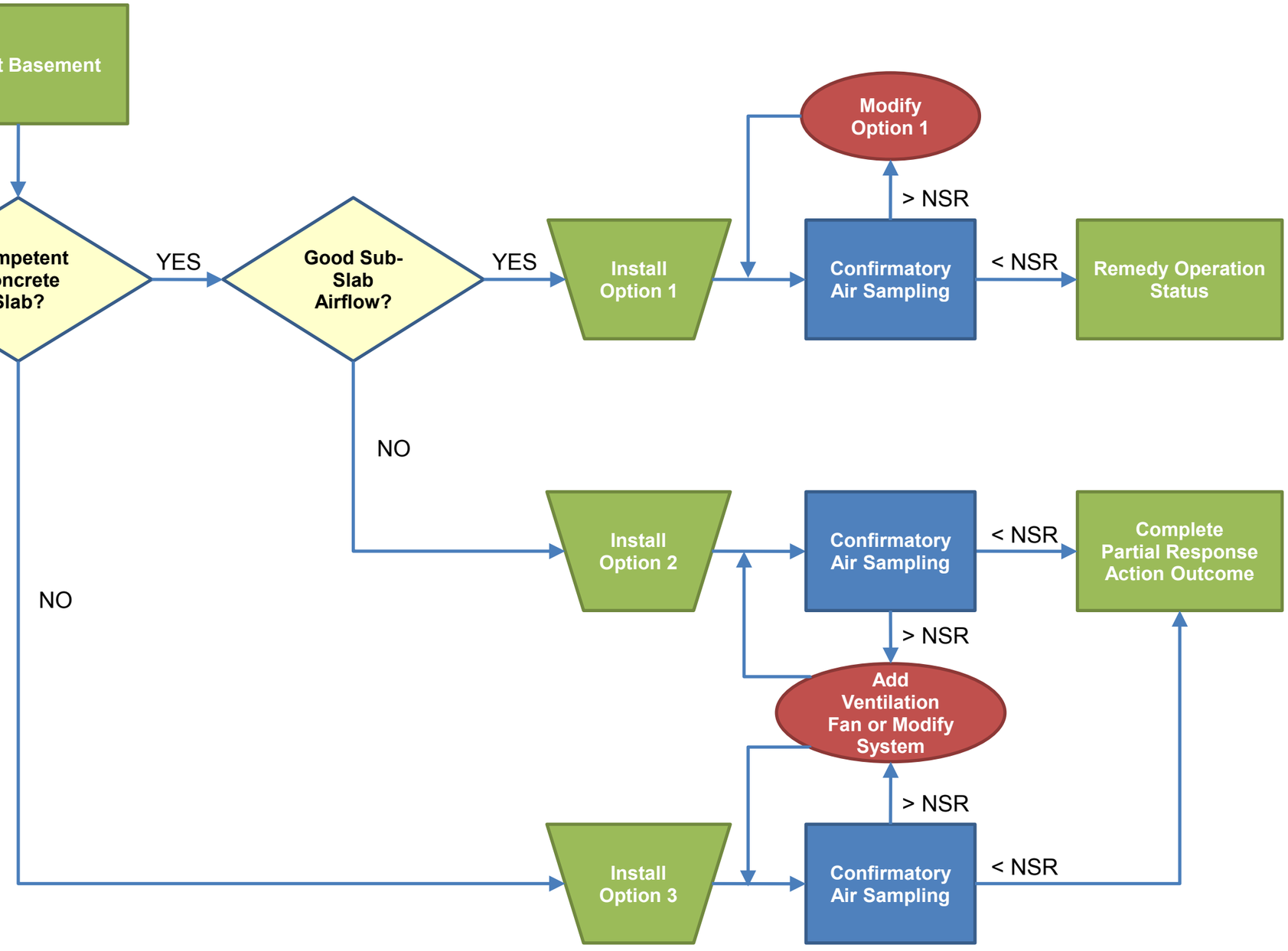
1. Competent concrete slab
2. Poured concrete foundation
3. Granular sub-grade (good sub-slab air flow)

Option 2 (Vapor Trench):

1. Competent concrete slab
2. Silt/clay sub-grade (poor sub-slab air flow)

Option 3 (New Slab Installation):

1. Incompetent concrete slab
2. Silt/clay sub-grade (poor sub-slab air flow)



NSR = No Significant Risk

Phase V Status Report No. 16 and Remedial Monitoring Report No. 31 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	EPMM MITIGATION FLOW CHART
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	August 2019 Fig. 4-2

Phase V Status Report No. 16 and
Remedial Monitoring Report No. 31
50 Tufts Street, Somerville, Massachusetts

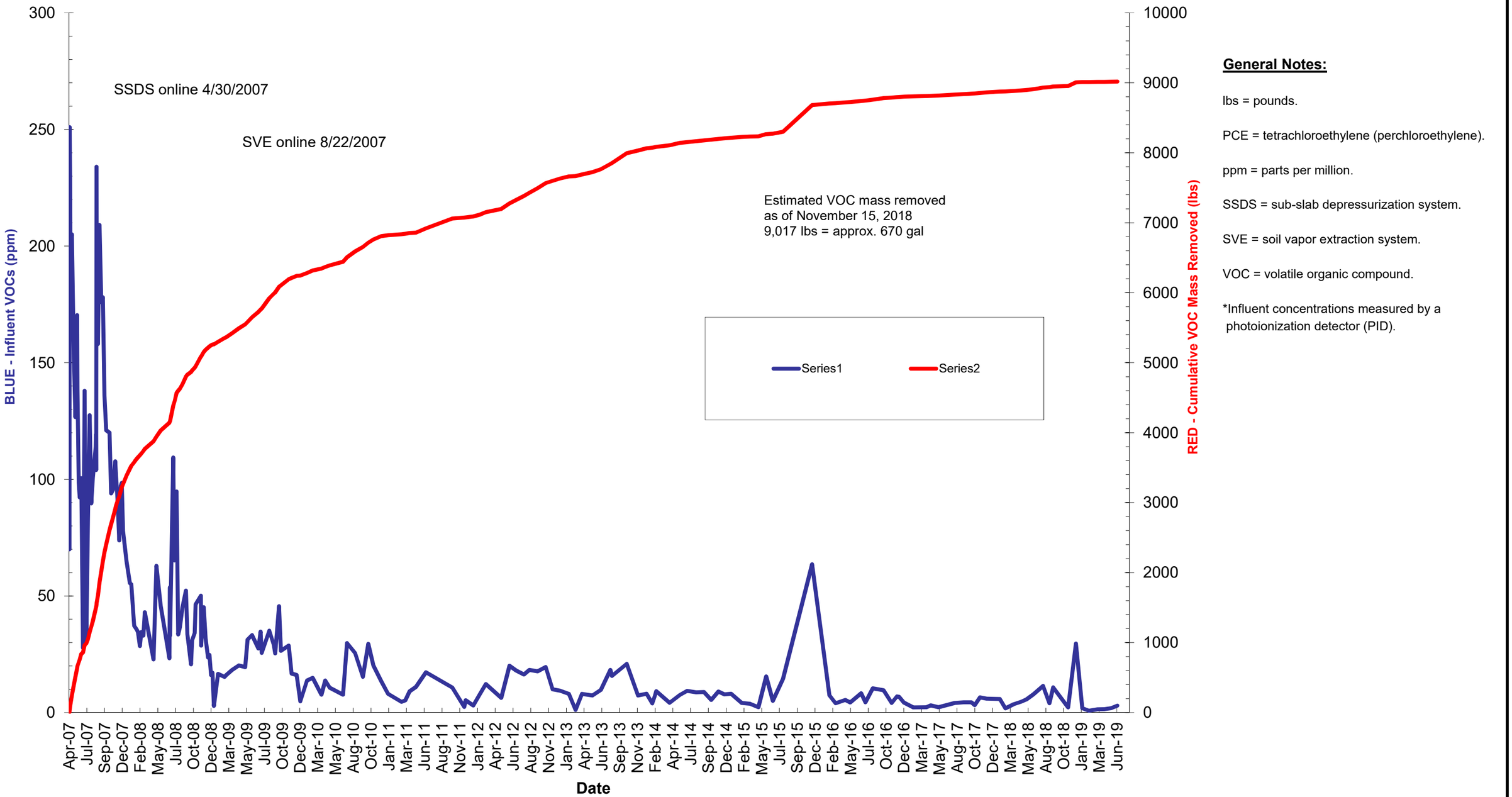
UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

PERMANENT SOLUTION STATUS

Project 04516-3 | August 2019 | Fig. 4-3

N:\04516\20.0 GIS Data\Map_Files\Tufts_St_RAO_Tracking (for reports).mxd



General Notes:

lbs = pounds.

PCE = tetrachloroethylene (perchloroethylene).

ppm = parts per million.

SSDS = sub-slab depressurization system.

SVE = soil vapor extraction system.

VOC = volatile organic compound.

*Influent concentrations measured by a photoionization detector (PID).

Phase V Status Report No. 16 and Remedial Monitoring Report No. 31 50 Tufts Street, Somerville, Massachusetts	GEI Consultants	COMBINED INFLUENT VOC CONCENTRATIONS AND CUMULATIVE VOC REMOVAL
UniFirst Corporation Wilmington, Massachusetts	Project 04516-3	August 2019 Fig. 6-1

Appendix A

MassDEP Transmittal Forms BWSC-108, BWSC-108A, BWSC-108B and eDEP Transmittal Receipts

Comprehensive Response Action Transmittal Forms:

- **BWSC-108A 1 of 5 (50 Tufts SSDS)**
- **BWSC-108B 1 of 5 (50 Tufts SSDS)**
- **BWSC-108A 2 of 5 (50 Tufts SVE)**
- **BWSC-108B 2 of 5 (50 Tufts SVE)**
- **BWSC-108A 3 of 5 (Capuano Center)**
- **BWSC-108B 3 of 5 (Capuano Center)**
- **BWSC-108A 4 of 5 (Residences)**
- **BWSC-108A 5 of 5 (MNA)**

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**CMALAGRIDA**
Transaction ID:	**1124628**
Document:	**BWSC108 Comp. Res. Action Transmittal Form & Phase I**
Size of File:	**1339.69K**
Status of Transaction:	**In Process**
Date and Time Created:	**7/29/2019:9:42:17 AM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 108

Release Tracking Number
3 - 23246

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

A. SITE LOCATION:

1. Site Name: 50 TUFTS ST & PROP ACROSS THE ST

2. Street Address: 50 TUFTS ST

3. City/Town: SOMERVILLE 4. ZIP Code: 021454129

☑ 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category:

☐ a. Tier I ☐ b. Tier ID ☑ c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ 1. Submit a **Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 2. Submit a **Revised Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 3. Submit a **Phase II Scope of Work,** pursuant to 310 CMR 40.0834.

☐ 4. Submit an **interim Phase II Report.** This report does not satisfy the response action deadline requirements in 310 CMR 40.0500.

☐ 5. Submit a **final Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 6. Submit a **Revised Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 7. Submit a **Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 9. Submit a **Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 10. Submit a **Modified Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 11. Submit an **As-Built Construction Report,** pursuant to 310 CMR 40.0875.

☐ 12. Submit a **Phase IV Status Report,** pursuant to 310 CMR 40.0877.

☐ 13. Submit a **Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

☐ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Permanent or Temporary Solution.

☐ b. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

☐ 14. Submit a **Revised Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

☑ 15. Submit a **Phase V Status Report,** pursuant to 310 CMR 40.0892.

☑ 16. Submit a **Remedial Monitoring Report.** (This report can only be submitted through eDEP.)

a. Type of Report: (check one) ☐ i. Initial Report ☑ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal: (check all that apply)

☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

☑ iii. A Remedial Monitoring Report(s) submitted every six months, concurrent with a Status Report.

☐ iv. A Remedial Monitoring Report(s) submitted annually, concurrent with a Status Report.

c. Status of Site: (check one) ☐ i. Phase IV ☑ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

d. Number of Remedial Systems and/or Monitoring Programs: 5

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 17. Submit a **Remedy Operation Status,** pursuant to 310 CMR 40.0893.

☑ 18. Submit a **Status Report to maintain a Remedy Operation Status,** pursuant to 310 CMR 40.0893(2).

☐ 19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS),** pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).

☐ a. Submit a Transfer of Persons Maintaining an ROS (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").

☐ b. Submit a Modification of Persons Maintaining an ROS (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").

c. Number of Persons Maintaining an ROS not including the primary representative: _____

☐ 20. Submit a **Termination of a Remedy Operation Status,** pursuant to 310 CMR 40.0893(6).(check one)

☐ a. Submit a notice indicating ROS performance standards have not been met. A plan and timetable pursuant to 310 CMR 40.0893(6)(b) for resuming the ROS are attached.

☐ b. Submit a notice of Termination of ROS.

☐ 21. Submit a **Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

Specify the outcome of Phase V activities: (check one)

☐ a. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ b. The requirements for a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ 22. Submit a **Revised Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

☐ 23. Submit a **Temporary Solution Status Report,** pursuant to 310 CMR 40.0898.

☐ 24. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

a. Status of Site: (check one)

☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that a* ***Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement*** *and/or a* ***Termination of a Remedy Operation Status*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that a* ***Phase II Scope of Work*** *or a* ***Phase IV Remedy Implementation Plan*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an* ***As-Built Construction Report,*** *a* ***Remedy Operation Status,*** *a* ***Phase IV, Phase V or Temporary Solution Status Report,*** *a* ***Status Report to Maintain a Remedy Operation Status,*** *a* ***Transfer or Modification of Persons Maintaining a Remedy Operation Status*** *and/or a* ***Remedial Monitoring Report*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP#: 9719

2. First Name: ILEEN S 3. Last Name: GLADSTONE

4. Telephone: 7817214012 5. Ext.: 6. Email: igladstone@geiconsultants.com

7. Signature:

8. Date: (mm/dd/yyyy) 9. LSP Stamp:

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: UNIFIRST CORPORATION

3. Contact First Name: TIMOTHY 4. Last Name: COSGRAVE

5. Street: 68 JONSPIN RD 6. Title: DIRECTOR EH&S

7. City/Town: WILMINGTON 8. State: MA 9. ZIP Code: 018871090

10. Telephone: 9786588888 11. Ext: 4332 12. Email:

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS: ☐ Check here to change relationship

☑ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☑ e. Other RP or PRP Specify: OTHER PRPS

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking Response Actions Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☑ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☑ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.

☑ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.

☑ 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.

☐ 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.

☐ 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to: BWSC.eDEP@state.ma.us.

☑ 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT
Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

1. I, _____, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

>*if Section B indicates that this is a* **Modification of a Remedy Operation Status (ROS),** I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons performing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: _____ (Signature)

3. Title: DIRECTOR EH&S

4. For: UNIFIRST CORPORATION (Name of person or entity recorded in Section D)

5. Date: _____ (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. Email: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 1 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☑ i. Off-gas Controls ☐ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 12/16/2018 (mm/dd/yyyy) To: 6/15/2019 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
- ☐ a. System Startup: (if applicable)
  - ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
  - ☐ ii. Other Describe:
- ☑ b. Post-system Startup (after first month) or Monitoring Program:
  - ☐ i. Monthly
  - ☐ ii. Quarterly
  - ☐ iii. Annually
  - ☑ iv. Other Describe: PERATIONAL PARAMETERS QUARTERLY, PFF GAS MONTHLY

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion
Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 181 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 364 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units	Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☑ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: 2 b. Total Number of Days of Scheduled Shutdowns: 2

c. Reason(s) for Scheduled Shutdowns: TELEMETRY MODIFICATIONS

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 1 of: 5

BWSC108 -B

Release Tracking Number
3 23246

For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SSDS	01/14/2019	TOTAL VOCS	1.9		0.0	☑	0.095	PPMV	YES
SSDS	02/11/2019	TOTAL VOCS	0.0		0.0	☑	0	PPMV	YES
SSDS	03/20/2019	TOTAL VOCS	1.43		0.0	☑	0.715	PPMV	YES
SSDS	04/17/2019	TOTAL VOCS	1.5		0.0	☑	0.075	PPMV	YES
SSDS	05/15/2019	TOTAL VOCS	1.9		0.0	☑	0.095	PPMV	YES
SSDS	06/11/2019	TOTAL VOCS	3		0.0	☑	0.15	PPMV	YES

☐ Check here if any additional BWSC108 B, Measurements Form(s), are needed.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 2 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☑ a. Active Remedial System: (check all that apply)

☐ i. NAPL Recovery ☑ ii. Soil Vapor Extraction/Bioventing ☐ iii. Vapor-phase Carbon Adsorption
☐ iv. Groundwater Recovery ☐ v. Dual/Multi-phase Extraction ☐ vi. Aqueous-phase Carbon Adsorption
☐ vii. Air Stripping ☐ viii. Sparging/Biosparging ☐ ix. Cat/Thermal Oxidation
☐ x. Other Describe:

☐ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☐ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
☐ i. To the Subsurface ☐ ii. To Groundwater (Injection) ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
☐ i. Reactive Wall ☐ ii. Natural Attenuation ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
☐ a. Sanitary Sewer/POTW
☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☑ i. Off-gas Controls ☐ ii. No Off-gas Controls
☐ d. Drinking Water Supply
☐ e. Surface Water (including Storm Drains)
☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 12/16/2018 (mm/dd/yyyy) To: 6/15/2019 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
☐ a. System Startup: (if applicable)
☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
☐ ii. Other Describe:
☑ b. Post-system Startup (after first month) or Monitoring Program:
☐ i. Monthly
☐ ii. Quarterly
☐ iii. Annually
☑ iv. Other Describe: OPERATIONAL PARAMETERS QUARTERLY, OFF GAS MONTHLY

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit
☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 181 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 364 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units	Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☑ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: 2 b. Total Number of Days of Scheduled Shutdowns: 2

c. Reason(s) for Scheduled Shutdowns: TELEMETRY MODIFICATIONS

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 2 of: 5

BWSC108 -B

Release Tracking Number
3 23246

For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SVE	01/14/2019	TOTAL VOCS	1.9		0.0	☑	0.095	PPMV	YES
SVE	02/11/2019	TOTAL VOCS	0.0		0.0	☑	0	PPMV	YES
SVE	03/20/2019	TOTAL VOCS	1.43		0.0	☑	0.715	PPMV	YES
SVE	04/17/2019	TOTAL VOCS	1.5		0.0	☑	0.075	PPMV	YES
SVE	05/15/2019	TOTAL VOCS	1.9		0.0	☑	0.095	PPMV	YES
SVE	06/11/2019	TOTAL VOCS	3		0.0	☑	0.15	PPMV	YES

☐ Check here if any additional BWSC108 B, Measurements Form(s), are needed.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 3 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☑ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 12/16/2018 (mm/dd/yyyy) To: 6/15/2019 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
- ☐ a. System Startup: (if applicable)
  - ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
  - ☐ ii. Other Describe:
- ☑ b. Post-system Startup (after first month) or Monitoring Program:
  - ☐ i. Monthly
  - ☑ ii. Quarterly
  - ☐ iii. Annually
  - ☐ iv. Other Describe:

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 181 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 82 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____
(mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
MEASUREMENTS
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 3 of: 5

BWSC108 -B

Release Tracking Number
3 23246

For each Point of Measurement, related to concentration indicate the highest concentration detected during the reporting period, of each oil, hazardous material and/or remedial additive.
For each Point of Measurement for pressure differentials, indicate the lowest pressure differential detected during the reporting period.

Point of Measurement	Date (mm/dd/yyyy)	Contaminant, Measurement and/or Indicator Parameter	Influent Concentration (where applicable)	Midpoint Concentration (where applicable)	(check one) ☑ Discharge ☐ GroundWater Concentration ☐ Pressure Differential	Check here, if ND/BDL	Permissible Concentration or Pressure Differential	Units	Within Permissible Limits? (Y/N)
SSDS	02/11/2019	TOTAL VOCS	0		0	☑	8	PPMV	YES
SSDS	04/17/2019	TOTAL VOCS	0.0		0.0	☑	8	PPMV	YES

☐ Check here if any additional BWSC108 B, Measurements Form(s), are needed.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 4 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)
- ☐ i. NAPL Recovery
- ☐ ii. Soil Vapor Extraction/Bioventing
- ☐ iii. Vapor-phase Carbon Adsorption
- ☐ iv. Groundwater Recovery
- ☐ v. Dual/Multi-phase Extraction
- ☐ vi. Aqueous-phase Carbon Adsorption
- ☐ vii. Air Stripping
- ☐ viii. Sparging/Biosparging
- ☐ ix. Cat/Thermal Oxidation
- ☐ x. Other Describe:

☑ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☑ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)
- ☐ i. To the Subsurface
- ☐ ii. To Groundwater (Injection)
- ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
- ☐ i. Reactive Wall
- ☐ ii. Natural Attenuation
- ☐ iii. Other Describe:

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)
- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☑ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☑ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 12/16/2018 (mm/dd/yyyy) To: 6/15/2019 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
- ☐ a. System Startup: (if applicable)
  - ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
  - ☐ ii. Other Describe:
- ☑ b. Post-system Startup (after first month) or Monitoring Program:
  - ☐ i. Monthly
  - ☐ ii. Quarterly
  - ☑ iii. Annually
  - ☐ iv. Other Describe:

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): WSC-94-150

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: 167 b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): 87 f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units	Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☑ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: 2 b. Total Number of Days of Scheduled Shutdowns: 14

c. Reason(s) for Scheduled Shutdowns: SHUTDOWN CLOSURE SAMPLING (60 TUFTS ST AND 13 KNOWLTON ST)

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 5 of: 5

BWSC108 -A

Release Tracking Number
3 - 23246

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☐ a. Active Remedial System: (check all that apply)

☐ i. NAPL Recovery ☐ ii. Soil Vapor Extraction/Bioventing ☐ iii. Vapor-phase Carbon Adsorption
☐ iv. Groundwater Recovery ☐ v. Dual/Multi-phase Extraction ☐ vi. Aqueous-phase Carbon Adsorption
☐ vii. Air Stripping ☐ viii. Sparging/Biosparging ☐ ix. Cat/Thermal Oxidation
☐ x. Other Describe:

☐ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☐ i. Indoor Air ☐ ii. Drinking Water

☐ c. Application of Remedial Additives: (check all that apply)

☐ i. To the Subsurface ☐ ii. To Groundwater (Injection) ☐ iii. To the Surface

☑ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)

☐ i. Reactive Wall ☑ ii. Natural Attenuation ☐ iii. Other Describe:

2. Mode of Operation: (check one)

☐ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

3. System Effluent/Discharge: (check all that apply)

☐ a. Sanitary Sewer/POTW
☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
☐ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☐ ii. No Off-gas Controls
☐ d. Drinking Water Supply
☐ e. Surface Water (including Storm Drains)
☐ f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 12/16/2018 (mm/dd/yyyy) To: 6/15/2019 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

☐ a. System Startup: (if applicable)

☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
☐ ii. Other Describe:

☑ b. Post-system Startup (after first month) or Monitoring Program:

☐ i. Monthly
☐ ii. Quarterly
☑ iii. Annually
☐ iv. Other Describe:

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit
☐ c. Emergency Exclusion Effective Date of Permit: (mm/dd/yyyy)

☐ 2. MCP Performance Standard MCP Citations(s):

☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☐ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: _____ b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): _____ f. Avg. Sparging Rate (scfm): _____

☐ 2. Remedial Additives: (check all that apply)

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units	Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____ (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☐ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☐ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Appendix B

Property Owner Notification Letters

GEI Consultants

Consulting Engineers and Scientists

March 10, 2019
Project 04516-3

Margarita Alvarez
Robert Curley
69 Mount Vernon Street
Unit 2
Somerville, MA 02145-4318

Dear Dr. Alvarez and Mr. Curley:

Re: Indoor Air and Soil Vapor Sampling
13 Knowlton Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct indoor air sampling at your property. In advance of the indoor air sampling, we are providing you with a "Notice of Environmental Sampling" (Form BWSC-123), as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continuing assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

ISG:csh
Enclosure

c: Timothy Cosgrave, UniFirst Corporation
MassDEP (as part of Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000 fax: 781.721.4073

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Dr. Alvarez and Mr. Curley

2. Street Address: 69 Mount Vernon Street, Unit 2

City/Town: Somerville, MA Zip Code: 02145-4318

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has been~~ conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 13 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling will be/~~has been~~ conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/has been conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor Air and Soil Vapor Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

GEI Consultants

Consulting Engineers and Scientists

April 24, 2019
Project 04516-3

Mr. John Fantasia
Sanctuary Condominium Trust
Harvest Properties, LLC
441 Main Street, Suite 206
Melrose, MA 02176-3859

Dear Mr. Fantasia:

Re: Groundwater Sampling
60 Tufts Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct groundwater sampling at your property located at 60 Tufts Street in Somerville, Massachusetts. In advance of the groundwater sampling, we are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

CMM/JDR:jj
Enclosure

c: Timothy Cosgrave, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000 fax: 781.721.4073

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Dr. Alvarez and Mr. Curley

2. Street Address: 69 Mount Vernon Street, Unit 2

City/Town: Somerville, MA Zip Code: 02145-4318

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has been~~ conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/~~has been~~ conducted:

1. Street Address: 13 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/~~has been~~ conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor Air and Soil Vapor Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

GEI Consultants

Consulting Engineers and Scientists

April 24, 2019
Project 04516-3

Mr. Vithal V. Deshpande
Environmental Coordinator
City Hall Annex
50 Evergreen Avenue
Somerville, MA 02145-2819

Dear Mr. Deshpande:

Re: Groundwater Sampling
Certain "Public Ways" and
Michael E. Capuano Early Childhood Center
Somerville, Massachusetts

Thank you for permitting GEI to conduct groundwater sampling at the Capuano Early Childhood Center and on certain public ways in Somerville, Massachusetts. In advance of the groundwater sampling, we are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

JN/CMM/JDR:jj
Enclosure

c: Tony Pierantozzi, Superintendent
Cheryl Piccirelli, Principal
Timothy Cosgrave, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000 fax: 781.721.4073

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Dr. Alvarez and Mr. Curley

2. Street Address: 69 Mount Vernon Street, Unit 2

City/Town: Somerville, MA Zip Code: 02145-4318

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has been~~ conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/~~has been~~ conducted:

1. Street Address: 13 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action	☐ Phase III Feasibility Evaluation
☐ Release Abatement Measure	☐ Phase IV Remedy Implementation Plan
☐ Utility-related Abatement Measure	☑ Phase V/Remedy Operation Status
☐ Phase I Initial Site Investigation	☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Phase II Comprehensive Site Assessment	☐ Other _____ (specify)

3. Description of property where sampling will be/~~has been~~ conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor Air and Soil Vapor Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

GEI Consultants

Consulting Engineers and Scientists

April 24, 2019
Project 04516-3

Mr. John Mostyn, Esq.
Corcoran Jennison Management
150 Mount Vernon Street, Suite 500
Boston, MA 02125-3125

Dear Mr. Mostyn:

Re: Groundwater Sampling
84 Washington Street
Somerville, Massachusetts

Thank you for permitting GEI to conduct groundwater sampling at your property located at 84 Washington Street in Somerville, Massachusetts. In advance of the groundwater sampling, we are providing you with a "Notice of Environmental Sampling Form (BWSC-123)," as required by the Massachusetts Department of Environmental Protection (MassDEP).

Thank you for your continued assistance. Please contact me at 781-721-4012 or igladstone@geiconsultants.com, if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.

Ileen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

CMM/JDR:jj
Enclosure

c: Timothy Cosgrave, UniFirst Corporation
MassDEP-NERO (as part of Status Report)

GEI Consultants, Inc.
400 Unicorn Park Drive, Woburn, MA 01801
781.721.4000 fax: 781.721.4073

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Tufts Street

City/Town: Somerville, MA Zip Code: 02145-4225

B. This notice is being provided to the following party:

1. Name: Dr. Alvarez and Mr. Curley

2. Street Address: 69 Mount Vernon Street, Unit 2

City/Town: Somerville, MA Zip Code: 02145-4318

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/~~has been~~ conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/~~has been~~ conducted:

1. Street Address: 13 Knowlton Street

City/Town: Somerville, MA Zip Code: 02145-4216

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☑ Phase V/Remedy Operation Status
☐ Post-Temporary Solution Operation, Maintenance and Monitoring
☐ Other _____ (specify)

3. Description of property where sampling will be/~~has been~~ conducted:

☑ residential ☐ commercial ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater, indoor air, soil gas) to the extent known at the time of this notice.

Indoor Air and Soil Vapor Sampling

E. Contact information related to the party providing this notice:

Contact Name: Ileen Gladstone, P.E., LSP, LEED AP

Street Address: GEI Consultants, Inc., 400 Unicorn Park Drive

City/Town: Woburn, MA Zip Code: 01801-3341

Telephone: (781) 721-4012 Email: igladstone@geiconsultants.com

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC123

This Notice is Related to:
Release Tracking Number

3 - 23246

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation of a release for which a notification to MassDEP has been made under the Massachusetts Contingency Plan (310 CMR 40.0300) on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/eea/agencies/massdep/cleanup. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://public.dep.state.ma.us/SearchableSites2/Search.aspx to view site-specific files on-line or http://mass.gov/eea/agencies/massdep/about/contacts/conduct-a-file-review.html if you would like to make an appointment to see these files in person. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Appendix C

Laboratory Testing Reports

ANALYTICAL REPORT

Lab Number:	L1913423
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Joe Roman
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	04/10/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1913423
Report Date: 04/10/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1913423-01	045163-163GLEN-IA-1	AIR	SOMERVILLE, MA	04/02/19 13:36	04/03/19
L1913423-02	045163-163GLEN-IA-2	AIR	SOMERVILLE, MA	04/02/19 13:34	04/03/19
L1913423-03	045163-163GLEN-IA-3	AIR	SOMERVILLE, MA	04/02/19 13:32	04/03/19
L1913423-04	045163-163GLEN-IA-4	AIR	SOMERVILLE, MA	04/02/19 13:30	04/03/19

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913423
Report Date: 04/10/19

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS STREET	**Lab Number:**	L1913423
Project Number:	045163	**Report Date:**	04/10/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913423
Report Date: 04/10/19

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on March 26, 2019. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 04/10/19

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1913423
Report Date: 04/10/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913423
Report Date: 04/10/19

SAMPLE RESULTS

Lab ID: L1913423-01
Client ID: 045163-163GLEN-IA-1
Sample Location: SOMERVILLE, MA

Date Collected: 04/02/19 13:36
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 04/06/19 08:19
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.048	0.020	--	0.325	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	89		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	83		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913423
Report Date: 04/10/19

SAMPLE RESULTS

Lab ID: L1913423-02
Client ID: 045163-163GLEN-IA-2
Sample Location: SOMERVILLE, MA

Date Collected: 04/02/19 13:34
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 04/06/19 04:42
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	0.303	0.020	--	1.20	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.033	0.020	--	0.224	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	97		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	94		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913423
Report Date: 04/10/19

SAMPLE RESULTS

Lab ID: L1913423-03
Client ID: 045163-163GLEN-IA-3
Sample Location: SOMERVILLE, MA

Date Collected: 04/02/19 13:32
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 04/06/19 05:59
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.027	0.020	--	0.183	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	84		60-140
bromochloromethane	83		60-140
chlorobenzene-d5	83		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1913423
Report Date: 04/10/19

SAMPLE RESULTS

Lab ID: L1913423-04
Client ID: 045163-163GLEN-IA-4
Sample Location: SOMERVILLE, MA

Date Collected: 04/02/19 13:30
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 04/06/19 06:38
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.023	0.020	--	0.156	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	87		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913423
Report Date: 04/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 04/05/19 19:05

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-04 Batch: WG1223663-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L1913423

Report Date: 04/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 Batch: WG1223663-3								
Vinyl chloride	86		-		70-130	-		
1,1-Dichloroethene	89		-		70-130	-		
trans-1,2-Dichloroethene	83		-		70-130	-		
1,1-Dichloroethane	83		-		70-130	-		
cis-1,2-Dichloroethene	105		-		70-130	-		
1,1,1-Trichloroethane	93		-		70-130	-		
Trichloroethene	97		-		70-130	-		
1,1,2-Trichloroethane	104		-		70-130	-		
Tetrachloroethene	110		-		70-130	-		
1,1,2,2-Tetrachloroethane	125		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1913423
Report Date: 04/10/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1223663-5 QC Sample: L1913423-02 Client ID: 045163-163GLEN-IA-2						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	0.303	0.311	ppbV	3		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Tetrachloroethene	0.033	0.036	ppbV	9		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L1913423

Report Date: 04/10/19

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1913423-01	045163-163GLEN-IA-1	01070	Flow 5	03/29/19	287597		-	-	-	Pass	3.3	3.5	6
L1913423-01	045163-163GLEN-IA-1	1705	6.0L Can	03/29/19	287597	L1912230-02	Pass	-29.9	-7.3	-	-	-	-
L1913423-02	045163-163GLEN-IA-2	0237	Flow 5	03/29/19	287597		-	-	-	Pass	3.2	3.7	14
L1913423-02	045163-163GLEN-IA-2	962	6.0L Can	03/29/19	287597	L1912230-02	Pass	-28.4	-6.0	-	-	-	-
L1913423-03	045163-163GLEN-IA-3	0632	Flow 5	03/29/19	287597		-	-	-	Pass	3.3	3.4	3
L1913423-03	045163-163GLEN-IA-3	1554	6.0L Can	03/29/19	287597	L1912230-01	Pass	-29.9	-6.8	-	-	-	-
L1913423-04	045163-163GLEN-IA-4	0080	Flow 4	03/29/19	287597		-	-	-	Pass	3.3	3.2	3
L1913423-04	045163-163GLEN-IA-4	2657	6.0L Can	03/29/19	287597	L1912230-02	Pass	-29.9	-4.9	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-01
Client ID: CAN 2673 SHELF 46
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/28/19 07:59
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-01
Client ID: CAN 2673 SHELF 46
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-01
Client ID: CAN 2673 SHELF 46
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-01
Client ID: CAN 2673 SHELF 46
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-01
Client ID: CAN 2673 SHELF 46
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	91		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	89		60-140

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1912230

Project Number: CANISTER QC BAT **Report Date:** 04/10/19

Air Canister Certification Results

Lab ID: L1912230-01
Client ID: CAN 2673 SHELF 46
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/28/19 07:59
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1912230

Project Number: CANISTER QC BAT **Report Date:** 04/10/19

Air Canister Certification Results

Lab ID: L1912230-01
Client ID: CAN 2673 SHELF 46
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-01
Client ID: CAN 2673 SHELF 46
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	91		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	90		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-02
Client ID: CAN 1551 SHELF 47
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/28/19 08:38
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1912230

Project Number: CANISTER QC BAT **Report Date:** 04/10/19

Air Canister Certification Results

Lab ID: L1912230-02
Client ID: CAN 1551 SHELF 47
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-02
Client ID: CAN 1551 SHELF 47
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-02
Client ID: CAN 1551 SHELF 47
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-02
Client ID: CAN 1551 SHELF 47
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	93		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-02
Client ID: CAN 1551 SHELF 47
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/28/19 08:38
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1912230

Project Number: CANISTER QC BAT **Report Date:** 04/10/19

Air Canister Certification Results

Lab ID: L1912230-02
Client ID: CAN 1551 SHELF 47
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1912230
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912230-02
Client ID: CAN 1551 SHELF 47
Sample Location:

Date Collected: 03/27/19 16:00
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	94		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	95		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1913423
Report Date: 04/10/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1913423-01A	Canister - 6 Liter	N/A	NA			Y	Absent		MCP-TO15-SIM(30)
L1913423-02A	Canister - 6 Liter	N/A	NA			Y	Absent		MCP-TO15-SIM(30)
L1913423-03A	Canister - 6 Liter	N/A	NA			Y	Absent		MCP-TO15-SIM(30)
L1913423-04A	Canister - 6 Liter	N/A	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS STREET	**Lab Number:**	L1913423
Project Number:	045163	**Report Date:**	04/10/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L1913423
Project Number:	045163	**Report Date:**	04/10/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913423
Report Date: 04/10/19

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

ALPHA ANALYTICAL — CHAIN OF CUSTODY

PAGE 1 OF 2

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/3/19

ALPHA Job #: L1913423

Client Information

Client: GEI Consultants Inc
Address: 400 Unicorn park Drive / Woburn MA
Phone: 781-721-4136 (0619-977-2951)
Fax:
Email: labdata@geiconsultants.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts Street
Project Location: 045163
Project #: 045163
Project Manager: Joe Raman
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☒ See attached list

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH (Subset Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	ANALYSIS	Sample Comments (i.e. PID)
913423-01	045163-1636len-IA-1	4/2/19	1336	1336	-30.26	-7.62	AA	SMT	6	705	01070	X						See attached analyte list
-02	045163-1636len-IA-2	4/2/19	1334	1334	-28.69	-6.28	AA	SMT	6	962	0237	X						See attached analyte list
-03	045163-1636len-IA-3	4/2/19	1332	1332	-30.47	-7.61	AA	SMT	6	1554	0432	X						See attached analyte list
-04	045163-1636len-IA-4	4/2/19	1330	1330	-30.62	-6.20	AA	SMT	6	2657	0080	X						See attached analyte list

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: CS

Relinquished By:	Date/Time	Received By:	Date/Time:
	4/2/19 1600	GEI field room	4/2/19 1600
GEI Field Room	4/3/19 1220		4/3/19 1220
	4/3/19 1220		4/3/19 1220
	4/3/19 1700		4/3/19 17:50

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Indoor Air Sampling Analyte List

- 1,1-Dichloroethane
- 1,1-Dichloroethylene
- trans-1,2-Dichloroethylene
- cis-1,2-Dichloroethylene
- 1,1,1-Trichloroethane
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- Tetrachloroethylene
- Trichloroethylene
- Vinyl Chloride

ANALYTICAL REPORT

Lab Number:	L1913424
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Joe Roman
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	04/10/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1913424
Report Date: 04/10/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1913424-01	045163-163GLEN-SSV1	SOIL_VAPOR	SOMERVILLE, MA	04/02/19 14:48	04/03/19
L1913424-02	045163-163GLEN-SSV2	SOIL_VAPOR	SOMERVILLE, MA	04/02/19 14:55	04/03/19

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913424
Report Date: 04/10/19

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS STREET	**Lab Number:**	L1913424
Project Number:	045163	**Report Date:**	04/10/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913424
Report Date: 04/10/19

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on March 29, 2019. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

L1913424-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L1913424-02: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

WG1224728-5: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 04/10/19

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1913424
Report Date: 04/10/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913424
Report Date: 04/10/19

SAMPLE RESULTS

Lab ID: L1913424-01 D
Client ID: 045163-163GLEN-SSV1
Sample Location: SOMERVILLE, MA

Date Collected: 04/02/19 14:48
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15
Analytical Date: 04/10/19 02:56
Analyst: TS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	2.00	--	ND	5.11	--		10
1,1-Dichloroethene	ND	2.00	--	ND	7.93	--		10
trans-1,2-Dichloroethene	ND	2.00	--	ND	7.93	--		10
1,1-Dichloroethane	ND	2.00	--	ND	8.09	--		10
cis-1,2-Dichloroethene	ND	2.00	--	ND	7.93	--		10
1,1,1-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Trichloroethene	2.68	2.00	--	14.4	10.7	--		10
1,1,2-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Tetrachloroethene	ND	2.00	--	ND	13.6	--		10
1,1,2,2-Tetrachloroethane	ND	2.00	--	ND	13.7	--		10

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	80		60-140
Bromochloromethane	80		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913424
Report Date: 04/10/19

SAMPLE RESULTS

Lab ID: L1913424-02 D
Client ID: 045163-163GLEN-SSV2
Sample Location: SOMERVILLE, MA

Date Collected: 04/02/19 14:55
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15
Analytical Date: 04/10/19 04:09
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	2.46	2.00	--	6.29	5.11	--		10
1,1-Dichloroethene	ND	2.00	--	ND	7.93	--		10
trans-1,2-Dichloroethene	ND	2.00	--	ND	7.93	--		10
1,1-Dichloroethane	ND	2.00	--	ND	8.09	--		10
cis-1,2-Dichloroethene	ND	2.00	--	ND	7.93	--		10
1,1,1-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Trichloroethene	4.37	2.00	--	23.5	10.7	--		10
1,1,2-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Tetrachloroethene	ND	2.00	--	ND	13.6	--		10
1,1,2,2-Tetrachloroethane	ND	2.00	--	ND	13.7	--		10

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	99		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	106		60-140

Project Name: TUFTS STREET
Project Number: 045163
Lab Number: L1913424
Report Date: 04/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15
Analytical Date: 04/09/19 15:42

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air - Mansfield Lab for sample(s): 01-02 Batch: WG1224728-4								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L1913424

Report Date: 04/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air - Mansfield Lab	Associated sample(s): 01-02		Batch: WG1224728-3					
Vinyl chloride	96		-		70-130	-		
1,1-Dichloroethene	100		-		70-130	-		
trans-1,2-Dichloroethene	96		-		70-130	-		
1,1-Dichloroethane	100		-		70-130	-		
cis-1,2-Dichloroethene	97		-		70-130	-		
1,1,1-Trichloroethane	125		-		70-130	-		
Trichloroethene	107		-		70-130	-		
1,1,2-Trichloroethane	114		-		70-130	-		
Tetrachloroethene	110		-		70-130	-		
1,1,2,2-Tetrachloroethane	112		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1913424
Report Date: 04/10/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
MCP Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1224728-5 QC Sample: L1913424-01 Client ID: 045163-163GLEN-SSV1						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Trichloroethene	2.68	2.50	ppbV	7		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Tetrachloroethene	ND	ND	ppbV	NC		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L1913424

Report Date: 04/10/19

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1913424-01	045163-163GLEN-SSV1	01155	SV30	03/29/19	287597		-	-	-	Pass	33.1	32.2	3
L1913424-01	045163-163GLEN-SSV1	2438	2.7L Can	03/29/19	287597	L1912051-01	Pass	-29.9	-2.9	-	-	-	-
L1913424-02	045163-163GLEN-SSV2	01243	SV30	03/29/19	287597		-	-	-	Pass	32.7	32.9	1
L1913424-02	045163-163GLEN-SSV2	199	2.7L Can	03/29/19	287597	L1912051-01	Pass	-29.8	-4.7	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912051
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912051-01
Client ID: CAN 394 SHELF 2
Sample Location:

Date Collected: 03/26/19 16:00
Date Received: 03/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/27/19 19:39
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912051
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912051-01
Client ID: CAN 394 SHELF 2
Sample Location:

Date Collected: 03/26/19 16:00
Date Received: 03/27/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912051
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912051-01
Client ID: CAN 394 SHELF 2
Sample Location:

Date Collected: 03/26/19 16:00
Date Received: 03/27/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912051
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912051-01
Client ID: CAN 394 SHELF 2
Sample Location:

Date Collected: 03/26/19 16:00
Date Received: 03/27/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912051
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912051-01
Client ID: CAN 394 SHELF 2
Sample Location:

Date Collected: 03/26/19 16:00
Date Received: 03/27/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	90		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912051
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912051-01
Client ID: CAN 394 SHELF 2
Sample Location:

Date Collected: 03/26/19 16:00
Date Received: 03/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/27/19 19:39
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912051
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912051-01
Client ID: CAN 394 SHELF 2
Sample Location:

Date Collected: 03/26/19 16:00
Date Received: 03/27/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1912051
Report Date: 04/10/19

Air Canister Certification Results

Lab ID: L1912051-01
Client ID: CAN 394 SHELF 2
Sample Location:

Date Collected: 03/26/19 16:00
Date Received: 03/27/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	93		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1913424
Report Date: 04/10/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1913424-01A	Canister - 2.7 Liter	N/A	NA			Y	Absent		MCP-TO15(30)
L1913424-02A	Canister - 2.7 Liter	N/A	NA			Y	Absent		MCP-TO15(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS STREET	**Lab Number:**	L1913424
Project Number:	045163	**Report Date:**	04/10/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	TUFTS STREET	**Lab Number:**	L1913424
Project Number:	045163	**Report Date:**	04/10/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

ALPHA ANALYTICAL — CHAIN OF CUSTODY

PAGE 1 OF 2

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/3/19

ALPHA Job #: L1913424

Client Information

Client: GEI Consultants Inc
Address: 400 Unicorn Park Dr, Woburn, MA
Phone: (o) 781-721-4136 (c) 619-977-2951
Fax:
Email: labdata@geiconsultants.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts Street
Project Location: Somerville, MA
Project #: 045163
Project Manager: Joe Roman
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:

Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☒ See attached list

All Columns Below Must Be Filled Out

ANALYSIS: TO-15 | TO-15 SIM | APH Subset Non-petroleum HCs ☐ | Fixed Gases | Sulfides & Mercaptans by TO-15

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
913424-01	045163-1636len-SSV1	4/2/19	1348	1448	-30.06	-3.62	SV	SMT	2.7	2438	01155	X					See attached analyte list
-02	045163-1636len-SSV2	4/2/19	1355	1455	-29.87	-5.09	SV	SMT	2.7	199	01243	X					See attached analyte list.

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: CS

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
	4/2/19 1600	GEI field room	4/2/19 1600
GEI Field Room	4/3/19 1220		4/3/19 1220
	4/3/19 1200		4/5/19 1000
	4/3/19 1750		4/3/19 1750

Indoor Air Sampling Analyte List

- 1,1-Dichloroethane
- 1,1-Dichloroethylene
- trans-1,2-Dichloroethylene
- cis-1,2-Dichloroethylene
- 1,1,1-Trichloroethane
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- Tetrachloroethylene
- Trichloroethylene
- Vinyl Chloride

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

GEI Consultants, Inc.

Tufts Street, Somerville, MA

045163

SGS Job Number: JC86426

Sampling Date: 04/15/19

Report to:

GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801
JRoman@GEIConsultants.com; mgreer@geiconsultants.com

ATTN: Joe Roman

Total number of pages in report: **834**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Brian McGuire
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

SGS is the sole authority for authorizing edits or modifications to this document.
Unauthorized modification of this report is strictly prohibited.
Review standard terms at: http://www.sgs.com/en/terms-and-conditions

Please share your ideas about
how we can serve you better at:
EHS.US.CustomerCare@sgs.com

Sections: 1 2 3 4 5 6 7 8 9 10 11 12 13

Table of Contents

Section 1: Sample Summary **4**
Section 2: Case Narrative/Conformance Summary **5**
Section 3: Summary of Hits **8**
Section 4: Sample Results **9**
4.1: JC86426-1: 045163-MW112A 10
4.2: JC86426-2: 045163-MW117S 16
4.3: JC86426-3: 045163-MW117D 19
4.4: JC86426-4: 045163-MW121S 22
4.5: JC86426-5: 045163-MW121D 25
Section 5: Misc. Forms **28**
5.1: Chain of Custody 29
5.2: Sample Tracking Chronicle 32
5.3: Internal Chain of Custody 33
Section 6: MS Volatiles - QC Data Summaries **36**
6.1: Method Blank Summary 37
6.2: Blank Spike/Blank Spike Duplicate Summary 41
6.3: Matrix Spike/Matrix Spike Duplicate Summary 45
6.4: Instrument Performance Checks (BFB) 49
6.5: Internal Standard Area Summaries 53
6.6: Surrogate Recovery Summaries 55
6.7: Initial and Continuing Calibration Summaries 56
Section 7: MS Volatiles - Raw Data **70**
7.1: Samples 71
7.2: Method Blanks 103
7.3: Blank Spike/Blank Spike Duplicates 113
7.4: Matrix Spike/Matrix Spike Duplicates 129
7.5: Instrument Performance Checks (BFB) 145
7.6: Initial and Continuing Calibrations 151
7.7: Instrument Run Logs 202
Section 8: GC Volatiles - QC Data Summaries **208**
8.1: Method Blank Summary 209
8.2: Laboratory Control Sample Summary 210
8.3: Duplicate Summary 211
8.4: Initial and Continuing Calibration Summaries 212
Section 9: GC Volatiles - Raw Data **217**
9.1: Samples 218
9.2: Method Blanks 224
9.3: Laboratory Control Samples 230
9.4: Duplicates 236
9.5: Initial and Continuing Calibrations 239
9.6: Instrument Run Logs 277
Section 10: Metals Analysis - QC Data Summaries **281**

Table of Contents

10.1: Inst QC MA46535: Mn 282
10.2: Inst QC MA46555: Mn 340
10.3: Prep QC MP14303: Mn 386
10.4: IDL and Linear Range Summaries 396
Section 11: Metals Analysis - Raw Data 400
11.1: Raw Data MA46535 401
11.2: Raw Data MA46555 531
11.3: Prep Logs 595
Section 12: General Chemistry - QC Data Summaries 597
12.1: Method Blank and Spike Results Summary 598
12.2: Duplicate Results Summary 599
12.3: Matrix Spike Results Summary 600
12.4: Matrix Spike Duplicate Results Summary 601
12.5: Inst QC GN94202: Sulfate 602
12.6: Inst QC GN94318: Chloride 605
12.7: Inst QC GN94326: Total Organic Carbon 608
12.8: Inst QC GN94330: Nitrogen, Nitrate + Nitrite 612
Section 13: General Chemistry - Raw Data 616
13.1: Raw Data GN94187: Surfactants, MBAS as LAS 617
13.2: Raw Data GN94198: Nitrogen, Nitrite 622
13.3: Raw Data GN94199: Iron, Ferrous 626
13.4: Raw Data GN94202: Sulfate 631
13.5: Raw Data GN94243: Alkalinity, Total as CaCO3 698
13.6: Raw Data GN94251: Total Residual Chlorine 704
13.7: Raw Data GN94263: Sulfide 706
13.8: Raw Data GN94318: Chloride 711
13.9: Raw Data GN94326: Total Organic Carbon 774
13.10: Raw Data GN94330: Nitrogen, Nitrate + Nitrite 823

SGS North America Inc.

Sample Summary

GEI Consultants, Inc.

Job No: JC86426

Tufts Street, Somerville, MA
Project No: 045163

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC86426-1	04/15/19	13:20	BRL	04/15/19	AQ	Ground Water	045163-MW112A
JC86426-2	04/15/19	14:15	BRL	04/15/19	AQ	Ground Water	045163-MW117S
JC86426-3	04/15/19	12:35	BRL	04/15/19	AQ	Ground Water	045163-MW117D
JC86426-4	04/15/19	11:15	BRL	04/15/19	AQ	Ground Water	045163-MW121S
JC86426-5	04/15/19	11:10	BRL	04/15/19	AQ	Ground Water	045163-MW121D

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	GEI Consultants, Inc.	**Job No**	JC86426
Site:	Tufts Street, Somerville, MA	**Report Date**	4/22/2019 3:36:18 PM

On 04/15/2019, 5 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.1 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC86426 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** V3D6273

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86495-2MS, JC86495-2MSD were used as the QC samples indicated.
- Matrix Spike Duplicate Recovery(s) for 1,1,1-Trichloroethane are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- JC86426-1: Diluted due to high concentration of target compound.
- JC86426-1 for Bromomethane: Associated CCV outside of control limits low.
- JC86426-3 for Bromomethane: Associated CCV outside of control limits low.
- JC86426-2 for Bromomethane: Associated CCV outside of control limits low.
- JC86426-4 for Bromomethane: Associated CCV outside of control limits low.
- JC86426-5 for Bromomethane: Associated CCV outside of control limits low.

Matrix: AQ **Batch ID:** V3D6274

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86494-4MS, JC86494-4MSD were used as the QC samples indicated.

GC Volatiles By Method RSK-175

Matrix: AQ **Batch ID:** GAA1690

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) LA53751-1DUP were used as the QC samples indicated.

Metals Analysis By Method SW846 6010D

Matrix: AQ **Batch ID:** MP14303

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86497-1MS, JC86497-1MSD, JC86497-1SDL were used as the QC samples for metals.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP20673

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86327-1DUP, JC86327-1MS were used as the QC samples for Sulfate.

Matrix: AQ **Batch ID:** GP20737

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86512-8DUP, JC86512-8MS were used as the QC samples for Chloride.

General Chemistry By Method EPA 353.2/LACHAT

Matrix: AQ **Batch ID:** GP20729

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86521-4DUP, JC86521-4MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

General Chemistry By Method EPA353.2/SM4500NO2B

Matrix: AQ **Batch ID:** R177590

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC86426-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

General Chemistry By Method SM2320 B-11

Matrix: AQ **Batch ID:** GN94243

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86140-1DUP were used as the QC samples for Alkalinity, Total as CaCO3.
- JC86426-1 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.

General Chemistry By Method SM3500FE B-11

Matrix: AQ **Batch ID:** GN94199

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86426-1DUP, JC86426-1MS, JC86426-1MSD were used as the QC samples for Iron, Ferrous.
- JC86426-1 for Iron, Ferrous: Field analysis required. Received out of hold time and analyzed by request.

General Chemistry By Method SM4500CL F-11

Matrix: AQ **Batch ID:** GN94251

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86426-1DUP were used as the QC samples for Total Residual Chlorine.
- JC86426-1 for Total Residual Chlorine: Field analysis required. Received out of hold time and analyzed by request.

General Chemistry By Method SM4500NO2 B-11

Matrix: AQ **Batch ID:** GN94198

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86449-1MS, JC86449-1DUP were used as the QC samples for Nitrogen, Nitrite.
- RPD(s) for Duplicate for Nitrogen, Nitrite are outside control limits for sample GN94198-D1. RPD acceptable due to low duplicate and sample concentrations.

General Chemistry By Method SM4500S2- F-11

Matrix: AQ **Batch ID:** GN94263

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86426-1MS, JC86512-8DUP were used as the QC samples for Sulfide.

General Chemistry By Method SM5310 B-11

Matrix: AQ **Batch ID:** GP20738

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86461-2MS, JC86461-2MSD were used as the QC samples for Total Organic Carbon.

General Chemistry By Method SM5540 C-11

Matrix: AQ **Batch ID:** GN94187

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86426-1DUP, JC86426-1MS were used as the QC samples for Surfactants, MBAS as LAS.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JC86426
Account: GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Collected: 04/15/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC86426-1	**045163-MW112A**					
1,1-Dichloroethane [a]		38.5	2.5		ug/l	SW846 8260C
1,1-Dichloroethene [a]		57.3	2.5		ug/l	SW846 8260C
cis-1,2-Dichloroethene [a]		60.6	2.5		ug/l	SW846 8260C
Methyl Tert Butyl Ether [a]		25.9	2.5		ug/l	SW846 8260C
Tetrachloroethene		555	25		ug/l	SW846 8260C
1,1,1-Trichloroethane [a]		5.4	2.5		ug/l	SW846 8260C
Trichloroethene [a]		136	2.5		ug/l	SW846 8260C
Methane		6.7	0.11		ug/l	RSK-175
Manganese		3360	15		ug/l	SW846 6010D
Alkalinity, Total as CaCO3 [b]		259	5.0		mg/l	SM2320 B-11
Chloride		517	4.0		mg/l	EPA 300/SW846 9056A
Nitrogen, Nitrate [c]		0.48	0.11		mg/l	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite		0.49	0.10		mg/l	EPA 353.2/LACHAT
Sulfate		55.1	2.0		mg/l	EPA 300/SW846 9056A
JC86426-2	**045163-MW117S**					
No hits reported in this sample.						
JC86426-3	**045163-MW117D**					
Methyl Tert Butyl Ether		1.4	1.0		ug/l	SW846 8260C
JC86426-4	**045163-MW121S**					
No hits reported in this sample.						
JC86426-5	**045163-MW121D**					
1,1-Dichloroethane		18.8	1.0		ug/l	SW846 8260C
1,1-Dichloroethene		7.7	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethene		73.5	1.0		ug/l	SW846 8260C
Tetrachloroethene		48.2	1.0		ug/l	SW846 8260C
Trichloroethene		31.1	1.0		ug/l	SW846 8260C
Vinyl chloride		9.0	1.0		ug/l	SW846 8260C

(a) Diluted due to high concentration of target compound.
(b) Sample was titrated to a final pH of 4.5.
(c) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW112A		
Lab Sample ID:	JC86426-1	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3D146718.D	2.5	04/18/19 00:13	JP	n/a	n/a	V3D6273
Run #2	3D146752.D	25	04/18/19 15:04	JP	n/a	n/a	V3D6274

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	25	ug/l	
71-43-2	Benzene	ND	1.3	ug/l	
108-86-1	Bromobenzene	ND	2.5	ug/l	
74-97-5	Bromochloromethane	ND	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	2.5	ug/l	
75-25-2	Bromoform	ND	2.5	ug/l	
74-83-9	Bromomethane [b]	ND	5.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	25	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.5	ug/l	
108-90-7	Chlorobenzene	ND	2.5	ug/l	
75-00-3	Chloroethane	ND	2.5	ug/l	
67-66-3	Chloroform	ND	2.5	ug/l	
74-87-3	Chloromethane	ND	2.5	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.5	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.5	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.5	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/l	
75-34-3	1,1-Dichloroethane	38.5	2.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.5	ug/l	
75-35-4	1,1-Dichloroethene	57.3	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethene	60.6	2.5	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.5	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW112A		
Lab Sample ID:	JC86426-1	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.5	ug/l	
142-28-9	1,3-Dichloropropane	ND	2.5	ug/l	
594-20-7	2,2-Dichloropropane	ND	2.5	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	ug/l	
123-91-1	1,4-Dioxane	ND	310	ug/l	
60-29-7	Ethyl Ether	ND	5.0	ug/l	
100-41-4	Ethylbenzene	ND	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	13	ug/l	
98-82-8	Isopropylbenzene	ND	2.5	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	25.9	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	13	ug/l	
74-95-3	Methylene bromide	ND	2.5	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	13	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	2.5	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	5.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	ug/l	
127-18-4	Tetrachloroethene	555 [c]	25	ug/l	
109-99-9	Tetrahydrofuran	ND	25	ug/l	
108-88-3	Toluene	ND	2.5	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	5.4	2.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.5	ug/l	
79-01-6	Trichloroethene	136	2.5	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	2.5	ug/l	
	m,p-Xylene	ND	2.5	ug/l	
95-47-6	o-Xylene	ND	2.5	ug/l	
1330-20-7	Xylene (total)	ND	2.5	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW112A		
Lab Sample ID:	JC86426-1	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	98%	80-120%
17060-07-0	1,2-Dichloroethane-D4	98%	98%	81-124%
2037-26-5	Toluene-D8	104%	103%	80-120%
460-00-4	4-Bromofluorobenzene	99%	99%	80-120%

(a) Diluted due to high concentration of target compound.
(b) Associated CCV outside of control limits low.
(c) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW112A		
Lab Sample ID:	JC86426-1	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	RSK-175	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA72078.D	1	04/18/19 11:34	GP	n/a	n/a	GAA1690
Run #2							

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	6.7	0.11	ug/l	
74-84-0	Ethane	ND	0.23	ug/l	
74-85-1	Ethene	ND	0.31	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW112A		
Lab Sample ID:	JC86426-1	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
		Percent Solids:	n/a
Project:	Tufts Street, Somerville, MA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Manganese	3360	15	ug/l	1	04/17/19	04/18/19	ND	SW846 6010D [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA46535
(2) Prep QC Batch: MP14303

RL = Reporting Limit

Report of Analysis

Client Sample ID:	045163-MW112A		
Lab Sample ID:	JC86426-1	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
		Percent Solids:	n/a
Project:	Tufts Street, Somerville, MA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	259	5.0	mg/l	1	04/17/19 21:54	JO	SM2320 B-11
Chloride	517	4.0	mg/l	2	04/20/19 00:23	NV	EPA 300/SW846 9056A
Iron, Ferrous [b]	< 0.20	0.20	mg/l	1	04/16/19 00:03	MO	SM3500FE B-11
Nitrogen, Nitrate [c]	0.48	0.11	mg/l	1	04/19/19 12:35	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.49	0.10	mg/l	1	04/19/19 12:35	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	04/16/19 23:39	MO	SM4500NO2 B-11
Sulfate	55.1	2.0	mg/l	1	04/17/19 22:57	NV	EPA 300/SW846 9056A
Sulfide	< 2.0	2.0	mg/l	1	04/18/19 12:49	MP	SM4500S2- F-11
Surfactants, MBAS as LAS	< 0.10	0.10	mg/l	1	04/16/19 20:58	JOO	SM5540 C-11
Total Organic Carbon	< 1.0	1.0	mg/l	1	04/19/19 14:15	CD	SM5310 B-11
Total Residual Chlorine [b]	< 0.10	0.10	mg/l	1	04/17/19 23:57	MO	SM4500CL F-11

(a) Sample was titrated to a final pH of 4.5.
(b) Field analysis required. Received out of hold time and analyzed by request.
(c) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW117S		
Lab Sample ID:	JC86426-2	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146719.D	1	04/18/19 00:38	JP	n/a	n/a	V3D6273
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW117S		
Lab Sample ID:	JC86426-2	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW117S		
Lab Sample ID:	JC86426-2	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%
17060-07-0	1,2-Dichloroethane-D4	99%		81-124%
2037-26-5	Toluene-D8	103%		80-120%
460-00-4	4-Bromofluorobenzene	100%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW117D		
Lab Sample ID:	JC86426-3	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146720.D	1	04/18/19 01:03	JP	n/a	n/a	V3D6273
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW117D		
Lab Sample ID:	JC86426-3	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.4	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW117D		
Lab Sample ID:	JC86426-3	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%
17060-07-0	1,2-Dichloroethane-D4	99%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW121S		
Lab Sample ID:	JC86426-4	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146721.D	1	04/18/19 01:29	JP	n/a	n/a	V3D6273
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW121S		
Lab Sample ID:	JC86426-4	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW121S		
Lab Sample ID:	JC86426-4	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		80-120%
17060-07-0	1,2-Dichloroethane-D4	101%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	98%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW121D		
Lab Sample ID:	JC86426-5	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146722.D	1	04/18/19 01:54	JP	n/a	n/a	V3D6273
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	18.8	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	7.7	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	73.5	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW121D		
Lab Sample ID:	JC86426-5	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	48.2	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	31.1	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	9.0	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW121D		
Lab Sample ID:	JC86426-5	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		80-120%
17060-07-0	1,2-Dichloroethane-D4	98%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

Chain-of-Custody Record GW

Laboratory: ACCUTEST | **Laboratory Job # (Lab use only)** JC86426

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tufts St. | Project Location: Somerville, MA | Page 1 of 1

Project Number: 045163 | Project Manager: Joe Roman

Send Report to: Molly Greer

Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED – (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? (YES) NO NA

Preservative

HCl	HCl	None	NaOH + Zn Acetate	~~H_3PO_4~~ HCl	HNO_3	H_2SO_4	

Analysis

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOCs 8260	Methane, Ethane, Ethene	Alkalinity, Cl, TRCl, Fe II, N, NO_3, SO_4, Surfactants	Sulfide	TOC	Manganese	NO_2 & NO_3 as Nitrogen		Sample Specific Remarks
1	045163-MW112A	4/15/19	1320	GW	15	BRL	X	X	X	X	X	X	X		DO w/ 6 rxn HCl
2	045163-MW117S	4/15/19	1415	GW	3	MEG	X								
3	045163-MW117D	4/15/19	1235	GW	3	MEG	X								
4	045163-MW121S	4/15/19	1115	GW	3	BRL	X								A29
5	045163 MW121D	4/15/19	1110	GW	3	BRL	X								G53
															198
															V897
				INITIAL/ACCOUNT #		2AJ									
				LABEL VERIFICATION											

Sample Handling

Samples Field Filtered: YES (NO) NA

Sampled Shipped With Ice: (YES) NO

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

Turnaround Time (Business days):

Normal __X__ Other ____

10-Day ____ 7-Day ____

5-Day ____ 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

	Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.	Molly Greer	4/15/19	1435	Scott Vann
2.	Scott Vann	4/15/19	17:30	Elliott Tong
3.	Elliott Tong	4/15/19	1830	Fed Ex
4.	Fed Ex	4/16/19	0920	

4/15 SGS-ACCUTEST MARLBOR

SEAL 070844

On ice 3.1°C TP

4/9/2019

N:\04516\14.0 Field Program\14.4 Sampling Sheets and Surveys\14.4.1 Groundwater Sampling\COC full round April 2019.xls

5.1 5

JC86426: Chain of Custody
Page 1 of 3

SGS Sample Receipt Summary

Job Number: JC86426 **Client:** GEI **Project:** TUFTS ST.

Date / Time Received: 4/15/2019 6:30:00 PM **Delivery Method:** FedEx **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.1);

Cooler Temps (Corrected) °C: Cooler 1: (2.1);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 206717 pH 12+: 208717 Other: (Specify)

Comments: -1 TRC was not run in field. Sampe analyzed out of hold for TRC.

SM089-02 Rev. Date 12/1/16

Responded to by: Tammy Esposito McCloskey Response Date: 4/17/19

Proceed as noted Molly Greer notified.

Internal Sample Tracking Chronicle

GEI Consultants, Inc.

Job No: JC86426

Tufts Street, Somerville, MA
Project No: 045163

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC86426-1	Collected: 15-APR-19 13:20 By: BRL		Received: 15-APR-19 By: AS			
045163-MW112A						
JC86426-1	SM3500FE B-11	16-APR-19 00:03	MO			FE2
JC86426-1	SM5540 C-11	16-APR-19 20:58	JOO			MBAS
JC86426-1	SM4500NO2 B-11	16-APR-19 23:39	MO			NO2
JC86426-1	SM2320 B-11	17-APR-19 21:54	JO			ALK
JC86426-1	EPA 300/SW846 9056A	17-APR-19 22:57	NV	17-APR-19	NV	SO4
JC86426-1	SM4500CL F-11	17-APR-19 23:57	MO			TRC
JC86426-1	SW846 8260C	18-APR-19 00:13	JP			V8260MCP
JC86426-1	RSK-175	18-APR-19 11:34	GP			VRSK175DGMEE
JC86426-1	SM4500S2- F-11	18-APR-19 12:49	MP			S
JC86426-1	SW846 8260C	18-APR-19 15:04	JP			V8260MCP
JC86426-1	SW846 6010D	18-APR-19 23:36	ND	17-APR-19	MR	MN
JC86426-1	EPA353.2/SM4500NO2B	19-APR-19 12:35	KI			NO3O
JC86426-1	EPA 353.2/LACHAT	19-APR-19 12:35	KI	19-APR-19	KI	NO32
JC86426-1	SM5310 B-11	19-APR-19 14:15	CD	19-APR-19	CD	TOC
JC86426-1	EPA 300/SW846 9056A	20-APR-19 00:23	NV	19-APR-19	NV	CHL
JC86426-2	Collected: 15-APR-19 14:15 By: BRL		Received: 15-APR-19 By: AS			
045163-MW117S						
JC86426-2	SW846 8260C	18-APR-19 00:38	JP			V8260MCP
JC86426-3	Collected: 15-APR-19 12:35 By: BRL		Received: 15-APR-19 By: AS			
045163-MW117D						
JC86426-3	SW846 8260C	18-APR-19 01:03	JP			V8260MCP
JC86426-4	Collected: 15-APR-19 11:15 By: BRL		Received: 15-APR-19 By: AS			
045163-MW121S						
JC86426-4	SW846 8260C	18-APR-19 01:29	JP			V8260MCP
JC86426-5	Collected: 15-APR-19 11:10 By: BRL		Received: 15-APR-19 By: AS			
045163-MW121D						
JC86426-5	SW846 8260C	18-APR-19 01:54	JP			V8260MCP

SGS Internal Chain of Custody

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Received: 04/15/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86426-1.1	Secured Storage	Todd Shoemaker	04/17/19 15:01	Retrieve from Storage
JC86426-1.1	Todd Shoemaker	Secured Staging Area	04/17/19 15:01	Return to Storage
JC86426-1.1	Secured Staging Area	Moustafa Ramadan	04/17/19 16:18	Retrieve from Storage
JC86426-1.1	Moustafa Ramadan	Secured Storage	04/17/19 17:03	Return to Storage
JC86426-1.1.1	Moustafa Ramadan	Metals Digestion	04/17/19 16:21	Digestate from JC86426-1.1
JC86426-1.1.1	Metals Digestion	Moustafa Ramadan	04/17/19 16:22	Digestate from JC86426-1.1
JC86426-1.1.1	Moustafa Ramadan	Metals Digestate Storage	04/17/19 16:22	Return to Storage
JC86426-1.3	Secured Storage	Todd Shoemaker	04/19/19 10:18	Retrieve from Storage
JC86426-1.3	Todd Shoemaker	Secured Staging Area	04/19/19 10:18	Return to Storage
JC86426-1.3	Secured Staging Area	Kimberly Ignace	04/19/19 12:41	Retrieve from Storage
JC86426-1.3	Kimberly Ignace	Secured Storage	04/19/19 19:03	Return to Storage
JC86426-1.4	Secured Storage	Matthew Robbins	04/16/19 16:58	Retrieve from Storage
JC86426-1.4	Matthew Robbins	Secured Staging Area	04/16/19 16:58	Return to Storage
JC86426-1.4	Secured Staging Area	Dave Hunkele	04/19/19 05:07	Retrieve from Storage
JC86426-1.4	Dave Hunkele	Secured Storage	04/19/19 05:08	Return to Storage
JC86426-1.5	Secured Storage	Todd Shoemaker	04/17/19 14:26	Retrieve from Storage
JC86426-1.5	Todd Shoemaker	Secured Staging Area	04/17/19 14:27	Return to Storage
JC86426-1.5	Secured Staging Area	Michael Olcott	04/17/19 16:39	Retrieve from Storage
JC86426-1.5	Michael Olcott	Secured Storage	04/18/19 00:03	Return to Storage
JC86426-1.6	Secured Storage	Todd Shoemaker	04/17/19 15:19	Retrieve from Storage
JC86426-1.6	Todd Shoemaker	Secured Staging Area	04/17/19 15:21	Return to Storage
JC86426-1.6	Secured Storage	Sahara Feliciano	04/18/19 22:27	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC86426-1.6	Sahara Feliciano	Secured Staging Area	04/18/19 22:27	Return to Storage
JC86426-1.6	Secured Staging Area	Natasha Verma	04/19/19 09:20	Retrieve from Storage
JC86426-1.6	Secured Staging Area	Todd Shoemaker	04/22/19 07:37	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC86426-1.6	Todd Shoemaker	Secured Storage	04/22/19 07:37	Return to Storage
JC86426-1.6	Secured Storage	Todd Shoemaker	04/22/19 09:09	Retrieve from Storage
JC86426-1.6	Todd Shoemaker	Secured Staging Area	04/22/19 09:09	Return to Storage
JC86426-1.6	Secured Staging Area	Natasha Verma	04/23/19 09:13	Retrieve from Storage
JC86426-1.7	Secured Storage	Matthew Robbins	04/16/19 16:59	Retrieve from Storage
JC86426-1.7	Matthew Robbins	Secured Staging Area	04/16/19 16:59	Return to Storage
JC86426-1.7	Secured Staging Area	Michael Olcott	04/16/19 21:20	Retrieve from Storage
JC86426-1.7	Michael Olcott	Secured Storage	04/16/19 23:13	Return to Storage
JC86426-1.8	Secured Storage	Matthew Robbins	04/16/19 17:00	Retrieve from Storage
JC86426-1.8	Matthew Robbins	Secured Staging Area	04/16/19 17:00	Return to Storage

SGS Internal Chain of Custody

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Received: 04/15/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86426-1.8	Secured Staging Area	Michael Olcott	04/16/19 17:22	Retrieve from Storage
JC86426-1.8	Michael Olcott	Secured Storage	04/16/19 23:13	Return to Storage
JC86426-1.8	Secured Storage	Dwayne Johnson	04/17/19 12:41	Retrieve from Storage
JC86426-1.8	Dwayne Johnson	Secured Staging Area	04/17/19 12:41	Return to Storage
JC86426-1.8	Secured Staging Area	Natasha Verma	04/17/19 13:00	Retrieve from Storage
JC86426-1.8	Natasha Verma	Secured Storage	04/17/19 14:59	Return to Storage
JC86426-1.9	Secured Storage	Sahara Feliciano	04/17/19 20:04	Retrieve from Storage
JC86426-1.9	Sahara Feliciano	Secured Staging Area	04/17/19 20:04	Return to Storage
JC86426-1.9	Secured Staging Area	Mahendra Patel	04/18/19 09:19	Retrieve from Storage
JC86426-1.9	Mahendra Patel		04/18/19 15:40	Depleted
JC86426-1.10	Secured Storage	Sahara Feliciano	04/17/19 20:04	Retrieve from Storage
JC86426-1.10	Sahara Feliciano	Secured Staging Area	04/17/19 20:04	Return to Storage
JC86426-1.10	Secured Staging Area	Mahendra Patel	04/18/19 09:19	Retrieve from Storage
JC86426-1.10	Mahendra Patel		04/18/19 15:40	Depleted
JC86426-1.11	Secured Storage	Todd Shoemaker	04/19/19 09:10	Retrieve from Storage
JC86426-1.11	Todd Shoemaker	Secured Staging Area	04/19/19 09:10	Return to Storage
JC86426-1.11	Secured Staging Area	Dave Hunkele	04/23/19 05:26	Retrieve from Storage
JC86426-1.11	Dave Hunkele	Secured Storage	04/23/19 05:29	Return to Storage
JC86426-1.12	Secured Storage	Gabriella Pericone	04/18/19 08:23	Retrieve from Storage
JC86426-1.12	Gabriella Pericone	VOA Prep Storage	04/18/19 17:16	Return to Storage
JC86426-1.12	VOA Prep Storage	Gabriella Pericone	04/20/19 07:19	Retrieve from Storage
JC86426-1.12	Gabriella Pericone		04/20/19 07:19	Disposed
JC86426-1.13	Secured Storage	Devin Gomez	04/17/19 20:48	Retrieve from Storage
JC86426-1.13	Devin Gomez	GCMS3D	04/17/19 20:48	Load on Instrument
JC86426-1.13	GCMS3D	Jessica Potts	04/18/19 09:51	Unload from Instrument
JC86426-1.13	Jessica Potts	Secured Storage	04/18/19 09:51	Return to Storage
JC86426-1.14	Secured Storage	Jessica Potts	04/18/19 12:19	Retrieve from Storage
JC86426-1.14	Jessica Potts	GCMS3D	04/18/19 12:19	Load on Instrument
JC86426-1.14	GCMS3D	Jessica Potts	04/19/19 09:12	Unload from Instrument
JC86426-1.14	Jessica Potts	Secured Storage	04/19/19 09:12	Return to Storage
JC86426-2.1	Secured Storage	Devin Gomez	04/17/19 20:48	Retrieve from Storage
JC86426-2.1	Devin Gomez	GCMS3D	04/17/19 20:48	Load on Instrument
JC86426-2.1	GCMS3D	Jessica Potts	04/18/19 09:51	Unload from Instrument
JC86426-2.1	Jessica Potts	Secured Storage	04/18/19 09:51	Return to Storage
JC86426-3.1	Secured Storage	Devin Gomez	04/17/19 20:48	Retrieve from Storage
JC86426-3.1	Devin Gomez	GCMS3D	04/17/19 20:48	Load on Instrument

SGS Internal Chain of Custody

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Received: 04/15/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86426-3.1	GCMS3D	Jessica Potts	04/18/19 09:51	Unload from Instrument
JC86426-3.1	Jessica Potts	Secured Storage	04/18/19 09:51	Return to Storage
JC86426-4.1	Secured Storage	Devin Gomez	04/17/19 20:48	Retrieve from Storage
JC86426-4.1	Devin Gomez	GCMS3D	04/17/19 20:48	Load on Instrument
JC86426-4.1	GCMS3D	Jessica Potts	04/18/19 09:51	Unload from Instrument
JC86426-4.1	Jessica Potts	Secured Storage	04/18/19 09:51	Return to Storage
JC86426-5.1	Secured Storage	Devin Gomez	04/17/19 20:48	Retrieve from Storage
JC86426-5.1	Devin Gomez	GCMS3D	04/17/19 20:48	Load on Instrument
JC86426-5.1	GCMS3D	Jessica Potts	04/18/19 09:51	Unload from Instrument
JC86426-5.1	Jessica Potts	Secured Storage	04/18/19 09:51	Return to Storage

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6273-MB	3D146710.D	1	04/17/19	JP	n/a	n/a	V3D6273

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1, JC86426-2, JC86426-3, JC86426-4, JC86426-5

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	

Method Blank Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6273-MB	3D146710.D	1	04/17/19	JP	n/a	n/a	V3D6273

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1, JC86426-2, JC86426-3, JC86426-4, JC86426-5

CAS No.	Compound	Result	RL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

Method Blank Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6273-MB	3D146710.D	1	04/17/19	JP	n/a	n/a	V3D6273

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1, JC86426-2, JC86426-3, JC86426-4, JC86426-5

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	80-120%
17060-07-0	1,2-Dichloroethane-D4	97%	81-124%
2037-26-5	Toluene-D8	103%	80-120%
460-00-4	4-Bromofluorobenzene	99%	80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6274-MB	3D146740.D	1	04/18/19	JP	n/a	n/a	V3D6274

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1

CAS No.	Compound	Result	RL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	80-120%
17060-07-0	1,2-Dichloroethane-D4	100%	81-124%
2037-26-5	Toluene-D8	103%	80-120%
460-00-4	4-Bromofluorobenzene	99%	80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6273-BS	3D146707.D	1	04/17/19	JP	n/a	n/a	V3D6273
V3D6273-BSD	3D146708.D	1	04/17/19	JP	n/a	n/a	V3D6273

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1, JC86426-2, JC86426-3, JC86426-4, JC86426-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	200	238	119	237	119	0	42-150/22
71-43-2	Benzene	50	47.6	95	49.6	99	4	80-120/20
108-86-1	Bromobenzene	50	47.4	95	49.8	100	5	82-118/20
74-97-5	Bromochloromethane	50	52.3	105	52.1	104	0	84-121/20
75-27-4	Bromodichloromethane	50	51.2	102	52.8	106	3	83-120/20
75-25-2	Bromoform	50	57.8	116	59.4	119	3	76-129/20
74-83-9	Bromomethane	50	36.8	74	41.7	83	12	57-138/20
78-93-3	2-Butanone (MEK)	200	223	112	226	113	1	64-137/20
104-51-8	n-Butylbenzene	50	47.0	94	50.1	100	6	81-123/20
135-98-8	sec-Butylbenzene	50	45.3	91	48.3	97	6	84-121/20
98-06-6	tert-Butylbenzene	50	44.3	89	46.9	94	6	83-122/20
75-15-0	Carbon disulfide	50	42.8	86	44.5	89	4	64-137/20
56-23-5	Carbon tetrachloride	50	44.0	88	45.5	91	3	75-135/20
108-90-7	Chlorobenzene	50	46.3	93	48.1	96	4	84-117/20
75-00-3	Chloroethane	50	43.7	87	44.7	89	2	63-132/20
67-66-3	Chloroform	50	45.5	91	47.1	94	3	80-119/20
74-87-3	Chloromethane	50	40.7	81	41.5	83	2	46-136/20
95-49-8	o-Chlorotoluene	50	46.0	92	49.1	98	7	84-118/20
106-43-4	p-Chlorotoluene	50	46.3	93	48.9	98	5	83-116/20
108-20-3	Di-Isopropyl ether	50	52.8	106	53.0	106	0	73-128/20
96-12-8	1,2-Dibromo-3-chloropropane	50	50.9	102	52.4	105	3	72-127/20
124-48-1	Dibromochloromethane	50	55.7	111	57.3	115	3	80-123/20
106-93-4	1,2-Dibromoethane	50	53.8	108	56.1	112	4	84-117/20
95-50-1	1,2-Dichlorobenzene	50	47.2	94	49.8	100	5	84-119/20
541-73-1	1,3-Dichlorobenzene	50	47.3	95	49.7	99	5	81-117/20
106-46-7	1,4-Dichlorobenzene	50	47.5	95	49.9	100	5	82-117/20
75-71-8	Dichlorodifluoromethane	50	35.9	72	36.5	73	2	36-149/20
75-34-3	1,1-Dichloroethane	50	48.9	98	49.8	100	2	79-120/20
107-06-2	1,2-Dichloroethane	50	45.8	92	46.8	94	2	78-126/20
75-35-4	1,1-Dichloroethene	50	45.0	90	46.4	93	3	69-126/20
156-59-2	cis-1,2-Dichloroethene	50	47.9	96	49.0	98	2	80-120/20
156-60-5	trans-1,2-Dichloroethene	50	45.7	91	47.1	94	3	76-120/20
78-87-5	1,2-Dichloropropane	50	51.5	103	53.2	106	3	82-121/20
142-28-9	1,3-Dichloropropane	50	51.9	104	54.0	108	4	83-115/20
594-20-7	2,2-Dichloropropane	50	45.5	91	46.9	94	3	65-133/20
563-58-6	1,1-Dichloropropene	50	44.8	90	46.6	93	4	80-121/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6273-BS	3D146707.D	1	04/17/19	JP	n/a	n/a	V3D6273
V3D6273-BSD	3D146708.D	1	04/17/19	JP	n/a	n/a	V3D6273

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1, JC86426-2, JC86426-3, JC86426-4, JC86426-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	51.1	102	52.9	106	3	83-120/20
10061-02-6	trans-1,3-Dichloropropene	50	50.7	101	51.7	103	2	82-121/20
123-91-1	1,4-Dioxane	1250	1260	101	1290	103	2	52-147/20
60-29-7	Ethyl Ether	50	54.4	109	54.9	110	1	78-124/20
100-41-4	Ethylbenzene	50	46.7	93	49.0	98	5	80-120/20
87-68-3	Hexachlorobutadiene	50	42.5	85	46.9	94	10	75-129/20
591-78-6	2-Hexanone	200	220	110	228	114	4	65-132/20
98-82-8	Isopropylbenzene	50	45.7	91	48.3	97	6	83-120/20
99-87-6	p-Isopropyltoluene	50	45.2	90	48.2	96	6	83-122/20
1634-04-4	Methyl Tert Butyl Ether	50	52.0	104	52.2	104	0	80-119/20
108-10-1	4-Methyl-2-pentanone(MIBK)	200	219	110	226	113	3	71-131/20
74-95-3	Methylene bromide	50	50.9	102	52.8	106	4	85-120/20
75-09-2	Methylene chloride	50	48.3	97	47.9	96	1	77-120/20
91-20-3	Naphthalene	50	47.4	95	50.2	100	6	73-131/20
103-65-1	n-Propylbenzene	50	46.0	92	48.9	98	6	82-119/20
100-42-5	Styrene	50	48.7	97	50.6	101	4	82-122/20
994-05-8	tert-Amyl Methyl Ether	50	49.1	98	50.6	101	3	81-124/20
637-92-3	tert-Butyl Ethyl Ether	50	52.3	105	52.6	105	1	79-128/20
630-20-6	1,1,1,2-Tetrachloroethane	50	49.7	99	51.6	103	4	82-121/20
79-34-5	1,1,2,2-Tetrachloroethane	50	53.8	108	55.7	111	3	76-119/20
127-18-4	Tetrachloroethene	50	44.6	89	47.9	96	7	70-131/20
109-99-9	Tetrahydrofuran	50	51.9	104	51.6	103	1	64-129/20
108-88-3	Toluene	50	46.6	93	48.5	97	4	80-120/20
87-61-6	1,2,3-Trichlorobenzene	50	47.6	95	51.5	103	8	76-134/20
120-82-1	1,2,4-Trichlorobenzene	50	48.6	97	52.1	104	7	79-132/20
71-55-6	1,1,1-Trichloroethane	50	43.3	87	44.9	90	4	81-128/20
79-00-5	1,1,2-Trichloroethane	50	52.7	105	53.7	107	2	83-118/20
79-01-6	Trichloroethene	50	45.2	90	47.2	94	4	80-120/20
75-69-4	Trichlorofluoromethane	50	40.6	81	41.2	82	1	64-136/20
96-18-4	1,2,3-Trichloropropane	50	49.5	99	51.4	103	4	79-120/20
95-63-6	1,2,4-Trimethylbenzene	50	47.1	94	49.8	100	6	84-120/20
108-67-8	1,3,5-Trimethylbenzene	50	45.5	91	48.8	98	7	83-119/20
75-01-4	Vinyl chloride	50	42.6	85	44.2	88	4	51-135/20
	m,p-Xylene	100	92.6	93	96.7	97	4	80-120/20
95-47-6	o-Xylene	50	47.1	94	49.1	98	4	80-120/20
1330-20-7	Xylene (total)	150	140	93	146	97	4	80-120/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6273-BS	3D146707.D	1	04/17/19	JP	n/a	n/a	V3D6273
V3D6273-BSD	3D146708.D	1	04/17/19	JP	n/a	n/a	V3D6273

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1, JC86426-2, JC86426-3, JC86426-4, JC86426-5

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	104%	101%	80-120%
17060-07-0	1,2-Dichloroethane-D4	96%	95%	81-124%
2037-26-5	Toluene-D8	102%	103%	80-120%
460-00-4	4-Bromofluorobenzene	100%	100%	80-120%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6274-BS	3D146737.D	1	04/18/19	JP	n/a	n/a	V3D6274
V3D6274-BSD	3D146738.D	1	04/18/19	JP	n/a	n/a	V3D6274

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethene	50	53.1	106	47.5	95	11	70-131/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	101%	99%	80-120%
17060-07-0	1,2-Dichloroethane-D4	98%	96%	81-124%
2037-26-5	Toluene-D8	102%	104%	80-120%
460-00-4	4-Bromofluorobenzene	101%	100%	80-120%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86495-2MS	3D146712.D	20	04/17/19	JP	n/a	n/a	V3D6273
JC86495-2MSD	3D146713.D	20	04/17/19	JP	n/a	n/a	V3D6273
JC86495-2	3D146711.D	20	04/17/19	JP	n/a	n/a	V3D6273

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1, JC86426-2, JC86426-3, JC86426-4, JC86426-5

CAS No.	Compound	JC86495-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		4000	4740	119	4000	4470	112	6	34-149/17
71-43-2	Benzene	ND		1000	1060	106	1000	1010	101	5	54-136/10
108-86-1	Bromobenzene	ND		1000	1020	102	1000	961	96	6	78-122/11
74-97-5	Bromochloromethane	ND		1000	1090	109	1000	1050	105	4	79-124/11
75-27-4	Bromodichloromethane	ND		1000	1110	111	1000	1040	104	7	79-124/11
75-25-2	Bromoform	ND		1000	1230	123	1000	1160	116	6	71-130/11
74-83-9	Bromomethane	ND		1000	910	91	1000	956	96	5	53-142/14
78-93-3	2-Butanone (MEK)	ND		4000	4720	118	4000	4550	114	4	54-142/15
104-51-8	n-Butylbenzene	ND		1000	1040	104	1000	1000	100	4	73-133/12
135-98-8	sec-Butylbenzene	ND		1000	1030	103	1000	981	98	5	76-132/12
98-06-6	tert-Butylbenzene	ND		1000	992	99	1000	947	95	5	76-131/12
75-15-0	Carbon disulfide	ND		1000	1050	105	1000	991	99	6	59-145/17
56-23-5	Carbon tetrachloride	ND		1000	1030	103	1000	974	97	6	70-143/12
108-90-7	Chlorobenzene	ND		1000	1010	101	1000	963	96	5	78-123/10
75-00-3	Chloroethane	ND		1000	1070	107	1000	985	99	8	57-141/14
67-66-3	Chloroform	ND		1000	999	100	1000	941	94	6	76-123/11
74-87-3	Chloromethane	ND		1000	1050	105	1000	1000	100	5	43-141/16
95-49-8	o-Chlorotoluene	ND		1000	1000	100	1000	969	97	3	78-124/11
106-43-4	p-Chlorotoluene	ND		1000	1010	101	1000	955	96	6	77-122/11
108-20-3	Di-Isopropyl ether	ND		1000	1140	114	1000	1060	106	7	68-130/11
96-12-8	1,2-Dibromo-3-chloropropane	ND		1000	1070	107	1000	1030	103	4	66-130/13
124-48-1	Dibromochloromethane	ND		1000	1180	118	1000	1120	112	5	76-125/11
106-93-4	1,2-Dibromoethane	ND		1000	1160	116	1000	1090	109	6	78-119/11
95-50-1	1,2-Dichlorobenzene	14.8		1000	1020	101	1000	963	95	6	77-123/11
541-73-1	1,3-Dichlorobenzene	ND		1000	1010	101	1000	959	96	5	76-122/11
106-46-7	1,4-Dichlorobenzene	ND		1000	1000	100	1000	960	96	4	76-122/11
75-71-8	Dichlorodifluoromethane	ND		1000	1220	122	1000	1120	112	9	31-159/16
75-34-3	1,1-Dichloroethane	298		1000	1350	105	1000	1290	99	5	73-126/11
107-06-2	1,2-Dichloroethane	ND		1000	978	98	1000	921	92	6	72-131/11
75-35-4	1,1-Dichloroethene	233		1000	1300	107	1000	1230	100	6	63-136/14
156-59-2	cis-1,2-Dichloroethene	977		1000	1940	96	1000	1870	89	4	60-136/11
156-60-5	trans-1,2-Dichloroethene	11.6		1000	1040	103	1000	979	97	6	70-126/11
78-87-5	1,2-Dichloropropane	ND		1000	1120	112	1000	1070	107	5	78-124/10
142-28-9	1,3-Dichloropropane	ND		1000	1120	112	1000	1050	105	6	78-118/11
594-20-7	2,2-Dichloropropane	ND		1000	1010	101	1000	957	96	5	59-141/14
563-58-6	1,1-Dichloropropene	ND		1000	1030	103	1000	981	98	5	75-130/11

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86495-2MS	3D146712.D	20	04/17/19	JP	n/a	n/a	V3D6273
JC86495-2MSD	3D146713.D	20	04/17/19	JP	n/a	n/a	V3D6273
JC86495-2	3D146711.D	20	04/17/19	JP	n/a	n/a	V3D6273

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1, JC86426-2, JC86426-3, JC86426-4, JC86426-5

CAS No.	Compound	JC86495-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		1000	1110	111	1000	1060	106	5	79-123/11
10061-02-6	trans-1,3-Dichloropropene	ND		1000	1070	107	1000	1020	102	5	77-123/11
123-91-1	1,4-Dioxane	ND		25000	26200	105	25000	25400	102	3	49-146/26
60-29-7	Ethyl Ether	ND		1000	1160	116	1000	1090	109	6	72-127/12
100-41-4	Ethylbenzene	ND		1000	1050	105	1000	984	98	6	51-140/20
87-68-3	Hexachlorobutadiene	ND		1000	992	99	1000	942	94	5	64-141/14
591-78-6	2-Hexanone	ND		4000	4830	121	4000	4580	115	5	56-139/14
98-82-8	Isopropylbenzene	ND		1000	1030	103	1000	978	98	5	75-129/11
99-87-6	p-Isopropyltoluene	ND		1000	1010	101	1000	968	97	4	76-131/12
1634-04-4	Methyl Tert Butyl Ether	ND		1000	1100	110	1000	1030	103	7	72-123/11
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		4000	4840	121	4000	4590	115	5	66-136/13
74-95-3	Methylene bromide	ND		1000	1090	109	1000	1030	103	6	81-121/11
75-09-2	Methylene chloride	ND		1000	1040	104	1000	962	96	8	73-125/13
91-20-3	Naphthalene	ND		1000	1000	100	1000	969	97	3	62-141/13
103-65-1	n-Propylbenzene	ND		1000	1030	103	1000	981	98	5	68-133/11
100-42-5	Styrene	ND		1000	1060	106	1000	1000	100	6	75-129/11
994-05-8	tert-Amyl Methyl Ether	ND		1000	1040	104	1000	985	99	5	75-127/11
637-92-3	tert-Butyl Ethyl Ether	ND		1000	1110	111	1000	1040	104	7	74-130/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		1000	1080	108	1000	1020	102	6	77-124/11
79-34-5	1,1,2,2-Tetrachloroethane	ND		1000	1140	114	1000	1070	107	6	71-122/11
127-18-4	Tetrachloroethene	33.4		1000	1050	102	1000	1010	98	4	61-139/11
109-99-9	Tetrahydrofuran	ND		1000	1170	117	1000	1080	108	8	54-129/14
108-88-3	Toluene	ND		1000	1040	104	1000	973	97	7	60-135/10
87-61-6	1,2,3-Trichlorobenzene	ND		1000	1020	102	1000	979	98	4	70-138/13
120-82-1	1,2,4-Trichlorobenzene	ND		1000	1040	104	1000	995	100	4	72-137/13
71-55-6	1,1,1-Trichloroethane	2100		1000	2920	82	1000	2830	73* [a]	3	74-138/12
79-00-5	1,1,2-Trichloroethane	ND		1000	1120	112	1000	1060	106	6	78-121/11
79-01-6	Trichloroethene	879		1000	1780	90	1000	1750	87	2	62-141/10
75-69-4	Trichlorofluoromethane	ND		1000	1030	103	1000	960	96	7	57-149/14
96-18-4	1,2,3-Trichloropropane	ND		1000	1040	104	1000	992	99	5	74-122/11
95-63-6	1,2,4-Trimethylbenzene	ND		1000	1030	103	1000	977	98	5	54-143/10
108-67-8	1,3,5-Trimethylbenzene	ND		1000	1010	101	1000	962	96	5	67-133/11
75-01-4	Vinyl chloride	ND		1000	1160	116	1000	1080	108	7	43-146/15
	m,p-Xylene	ND		2000	2050	103	2000	1960	98	4	50-144/20
95-47-6	o-Xylene	ND		1000	1020	102	1000	978	98	4	63-134/10
1330-20-7	Xylene (total)	ND		3000	3080	103	3000	2940	98	5	56-139/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86495-2MS	3D146712.D	20	04/17/19	JP	n/a	n/a	V3D6273
JC86495-2MSD	3D146713.D	20	04/17/19	JP	n/a	n/a	V3D6273
JC86495-2	3D146711.D	20	04/17/19	JP	n/a	n/a	V3D6273

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1, JC86426-2, JC86426-3, JC86426-4, JC86426-5

CAS No.	Surrogate Recoveries	MS	MSD	JC86495-2	Limits
1868-53-7	Dibromofluoromethane	103%	101%	99%	80-120%
17060-07-0	1,2-Dichloroethane-D4	99%	96%	96%	81-124%
2037-26-5	Toluene-D8	103%	102%	103%	80-120%
460-00-4	4-Bromofluorobenzene	99%	99%	97%	80-120%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86494-4MS	3D146746.D	10	04/18/19	JP	n/a	n/a	V3D6274
JC86494-4MSD	3D146747.D	10	04/18/19	JP	n/a	n/a	V3D6274
JC86494-4	3D146742.D	10	04/18/19	JP	n/a	n/a	V3D6274

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86426-1

CAS No.	Compound	JC86494-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethene	1060		500	1430	74	500	1370	62	4	61-139/11

CAS No.	Surrogate Recoveries	MS	MSD	JC86494-4	Limits
1868-53-7	Dibromofluoromethane	102%	102%	99%	80-120%
17060-07-0	1,2-Dichloroethane-D4	96%	97%	100%	81-124%
2037-26-5	Toluene-D8	102%	101%	104%	80-120%
460-00-4	4-Bromofluorobenzene	100%	100%	99%	80-120%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6212-BFB
Lab File ID: 3D145269.D
Instrument ID: GCMS3D
Injection Date: 03/07/19
Injection Time: 17:57

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	16616	17.6		Pass
75	30.0 - 60.0% of mass 95	44517	47.2		Pass
95	Base peak, 100% relative abundance	94402	100.0		Pass
96	5.0 - 9.0% of mass 95	6251	6.62		Pass
173	Less than 2.0% of mass 174	981	1.04	(1.17) [a]	Pass
174	50.0 - 120.0% of mass 95	83682	88.6		Pass
175	5.0 - 9.0% of mass 174	6242	6.61	(7.46) [a]	Pass
176	95.0 - 101.0% of mass 174	80954	85.8	(96.7) [a]	Pass
177	5.0 - 9.0% of mass 176	5431	5.75	(6.71) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D6212-IC6212	3D145270.D	03/07/19	18:37	00:40	Initial cal 0.2
V3D6212-IC6212	3D145271.D	03/07/19	19:02	01:05	Initial cal 0.5
V3D6212-IC6212	3D145272.D	03/07/19	19:27	01:30	Initial cal 1
V3D6212-IC6212	3D145273.D	03/07/19	19:52	01:55	Initial cal 2
V3D6212-IC6212	3D145274.D	03/07/19	20:17	02:20	Initial cal 4
V3D6212-IC6212	3D145275.D	03/07/19	20:43	02:46	Initial cal 8
V3D6212-IC6212	3D145276.D	03/07/19	21:08	03:11	Initial cal 20
V3D6212-ICC6212	3D145277.D	03/07/19	21:33	03:36	Initial cal 50
V3D6212-IC6212	3D145278.D	03/07/19	21:58	04:01	Initial cal 100
V3D6212-IC6212	3D145279.D	03/07/19	22:24	04:27	Initial cal 200
V3D6212-ICV6212	3D145282.D	03/07/19	23:39	05:42	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6273-BFB
Lab File ID: 3D146705.D
Instrument ID: GCMS3D
Injection Date: 04/17/19
Injection Time: 18:36

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	17467	17.0		Pass
75	30.0 - 60.0% of mass 95	47011	45.7		Pass
95	Base peak, 100% relative abundance	102963	100.0		Pass
96	5.0 - 9.0% of mass 95	6826	6.63		Pass
173	Less than 2.0% of mass 174	782	0.76	(0.84) [a]	Pass
174	50.0 - 120.0% of mass 95	92931	90.3		Pass
175	5.0 - 9.0% of mass 174	7102	6.90	(7.64) [a]	Pass
176	95.0 - 101.0% of mass 174	90851	88.2	(97.8) [a]	Pass
177	5.0 - 9.0% of mass 176	5862	5.69	(6.45) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D6273-CC6212	3D146705.D	04/17/19	18:36	00:00	Continuing cal 50
V3D6273-BS	3D146707.D	04/17/19	19:36	01:00	Blank Spike
V3D6273-BSD	3D146708.D	04/17/19	20:02	01:26	Blank Spike Duplicate
V3D6273-MB	3D146710.D	04/17/19	20:52	02:16	Method Blank
JC86495-2	3D146711.D	04/17/19	21:17	02:41	(used for QC only; not part of job JC86426)
JC86495-2MS	3D146712.D	04/17/19	21:42	03:06	Matrix Spike
JC86495-2MSD	3D146713.D	04/17/19	22:07	03:31	Matrix Spike Duplicate
ZZZZZZ	3D146715.D	04/17/19	22:58	04:22	(unrelated sample)
ZZZZZZ	3D146716.D	04/17/19	23:23	04:47	(unrelated sample)
ZZZZZZ	3D146717.D	04/17/19	23:48	05:12	(unrelated sample)
JC86426-1	3D146718.D	04/18/19	00:13	05:37	045163-MW112A
JC86426-2	3D146719.D	04/18/19	00:38	06:02	045163-MW117S
JC86426-3	3D146720.D	04/18/19	01:03	06:27	045163-MW117D
JC86426-4	3D146721.D	04/18/19	01:29	06:53	045163-MW121S
JC86426-5	3D146722.D	04/18/19	01:54	07:18	045163-MW121D
ZZZZZZ	3D146723.D	04/18/19	02:19	07:43	(unrelated sample)
ZZZZZZ	3D146724.D	04/18/19	02:44	08:08	(unrelated sample)
ZZZZZZ	3D146725.D	04/18/19	03:09	08:33	(unrelated sample)
ZZZZZZ	3D146726.D	04/18/19	03:34	08:58	(unrelated sample)
ZZZZZZ	3D146727.D	04/18/19	04:00	09:24	(unrelated sample)
ZZZZZZ	3D146728.D	04/18/19	04:25	09:49	(unrelated sample)
ZZZZZZ	3D146729.D	04/18/19	04:50	10:14	(unrelated sample)
ZZZZZZ	3D146730.D	04/18/19	05:15	10:39	(unrelated sample)
ZZZZZZ	3D146731.D	04/18/19	05:40	11:04	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample:	V3D6273-BFB	**Injection Date:**	04/17/19
Lab File ID:	3D146705.D	**Injection Time:**	18:36
Instrument ID:	GCMS3D		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	3D146732.D	04/18/19	06:05	11:29	(unrelated sample)
ZZZZZZ	3D146733.D	04/18/19	06:31	11:55	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6274-BFB
Lab File ID: 3D146735.D
Instrument ID: GCMS3D
Injection Date: 04/18/19
Injection Time: 07:26

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	17176	17.8		Pass
75	30.0 - 60.0% of mass 95	44477	46.1		Pass
95	Base peak, 100% relative abundance	96523	100.0		Pass
96	5.0 - 9.0% of mass 95	6516	6.75		Pass
173	Less than 2.0% of mass 174	913	0.95	(1.04) [a]	Pass
174	50.0 - 120.0% of mass 95	87608	90.8		Pass
175	5.0 - 9.0% of mass 174	6678	6.92	(7.62) [a]	Pass
176	95.0 - 101.0% of mass 174	85331	88.4	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	5717	5.92	(6.70) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D6274-CC6212	3D146735.D	04/18/19	07:26	00:00	Continuing cal 20
V3D6274-BS	3D146737.D	04/18/19	08:23	00:57	Blank Spike
V3D6274-BSD	3D146738.D	04/18/19	08:56	01:30	Blank Spike Duplicate
V3D6274-MB	3D146740.D	04/18/19	09:48	02:22	Method Blank
ZZZZZZ	3D146741.D	04/18/19	10:27	03:01	(unrelated sample)
JC86494-4	3D146742.D	04/18/19	10:52	03:26	(used for QC only; not part of job JC86426)
ZZZZZZ	3D146743.D	04/18/19	11:18	03:52	(unrelated sample)
ZZZZZZ	3D146744.D	04/18/19	11:43	04:17	(unrelated sample)
ZZZZZZ	3D146745.D	04/18/19	12:08	04:42	(unrelated sample)
JC86494-4MS	3D146746.D	04/18/19	12:33	05:07	Matrix Spike
JC86494-4MSD	3D146747.D	04/18/19	12:58	05:32	Matrix Spike Duplicate
ZZZZZZ	3D146749.D	04/18/19	13:48	06:22	(unrelated sample)
ZZZZZZ	3D146750.D	04/18/19	14:13	06:47	(unrelated sample)
ZZZZZZ	3D146751.D	04/18/19	14:38	07:12	(unrelated sample)
JC86426-1	3D146752.D	04/18/19	15:04	07:38	045163-MW112A
ZZZZZZ	3D146753.D	04/18/19	15:29	08:03	(unrelated sample)
ZZZZZZ	3D146754.D	04/18/19	15:54	08:28	(unrelated sample)
ZZZZZZ	3D146755.D	04/18/19	16:19	08:53	(unrelated sample)
ZZZZZZ	3D146756.D	04/18/19	16:44	09:18	(unrelated sample)
ZZZZZZ	3D146757.D	04/18/19	17:09	09:43	(unrelated sample)
ZZZZZZ	3D146758.D	04/18/19	17:34	10:08	(unrelated sample)
ZZZZZZ	3D146759.D	04/18/19	17:59	10:33	(unrelated sample)

Internal Standard Area Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Check Std:	V3D6273-CC6212	**Injection Date:**	04/17/19
Lab File ID:	3D146705.D	**Injection Time:**	18:36
Instrument ID:	GCMS3D	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	221538	2.99	331064	4.19	466142	4.75	400077	7.14	189243	9.34
Upper Limit [a]	443076	3.49	662128	4.69	932284	5.25	800154	7.64	378486	9.84
Lower Limit [b]	110769	2.49	165532	3.69	233071	4.25	200039	6.64	94622	8.84

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V3D6273-BS	215315	2.99	331462	4.19	467507	4.75	399772	7.14	187733	9.34
V3D6273-BSD	205418	2.98	326627	4.19	455131	4.75	387933	7.14	180056	9.34
V3D6273-MB	210119	2.98	326190	4.19	451931	4.75	379429	7.14	177585	9.34
JC86495-2	204022	2.98	317145	4.19	435299	4.75	369843	7.14	174051	9.34
JC86495-2MS	222895	2.99	324091	4.19	450319	4.75	384440	7.14	182147	9.34
JC86495-2MSD	225617	2.99	325511	4.19	451731	4.75	388586	7.14	184132	9.34
ZZZZZZ	224439	2.98	334013	4.19	455468	4.75	385792	7.14	181929	9.34
ZZZZZZ	216262	2.98	327583	4.19	456617	4.75	389648	7.14	185912	9.34
ZZZZZZ	215570	2.98	327593	4.19	454653	4.75	385798	7.14	184431	9.34
JC86426-1 [c]	207296	2.98	326025	4.19	448928	4.75	378850	7.14	177892	9.34
JC86426-2	208369	2.98	327781	4.19	454378	4.75	384149	7.14	179829	9.34
JC86426-3	203733	2.98	324683	4.19	446717	4.75	382607	7.14	180347	9.34
JC86426-4	213851	2.98	338672	4.19	470397	4.75	402209	7.14	192196	9.34
JC86426-5	210315	2.98	332326	4.19	465405	4.75	396328	7.14	186942	9.34
ZZZZZZ	207456	2.98	328719	4.19	456211	4.75	391833	7.14	185488	9.34
ZZZZZZ	214773	2.98	331300	4.19	457715	4.75	389856	7.14	185580	9.34
ZZZZZZ	210500	2.98	320479	4.19	443314	4.75	377259	7.14	178398	9.34
ZZZZZZ	215306	2.98	329398	4.19	457045	4.75	389417	7.14	182586	9.34
ZZZZZZ	212185	2.98	333416	4.19	465946	4.75	396592	7.14	185820	9.34
ZZZZZZ	196568	2.98	326295	4.19	452338	4.75	384932	7.14	179783	9.34
ZZZZZZ	204793	2.98	317041	4.19	442421	4.75	373076	7.14	175642	9.34
ZZZZZZ	207726	2.98	328121	4.19	453482	4.75	387390	7.14	181849	9.34
ZZZZZZ	210592	2.98	327920	4.19	455047	4.75	386766	7.14	182025	9.34
ZZZZZZ	211740	2.98	320465	4.19	445556	4.75	380007	7.14	179142	9.34
ZZZZZZ	201674	2.98	329202	4.19	458737	4.75	390072	7.14	179521	9.34

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Diluted due to high concentration of target compound.

Internal Standard Area Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Check Std:	V3D6274-CC6212	**Injection Date:**	04/18/19
Lab File ID:	3D146735.D	**Injection Time:**	07:26
Instrument ID:	GCMS3D	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	210536	2.98	324847	4.19	451914	4.75	383958	7.14	180792	9.34
Upper Limit [a]	421072	3.48	649694	4.69	903828	5.25	767916	7.64	361584	9.84
Lower Limit [b]	105268	2.48	162424	3.69	225957	4.25	191979	6.64	90396	8.84

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V3D6274-BS	204089	2.99	309999	4.19	434058	4.75	370566	7.14	171281	9.34
V3D6274-BSD	206748	2.99	312280	4.19	431183	4.75	364071	7.14	170717	9.34
V3D6274-MB	207477	2.98	323498	4.19	448415	4.75	378973	7.14	177987	9.34
ZZZZZZ	207921	2.98	324758	4.19	448175	4.75	374125	7.14	177528	9.34
JC86494-4	205883	2.98	319645	4.19	440425	4.75	371544	7.14	175596	9.34
ZZZZZZ	214111	2.98	330154	4.19	456254	4.75	386626	7.14	181408	9.34
ZZZZZZ	153023	2.98	241880	4.19	336439	4.75	286058	7.14	132358	9.34
ZZZZZZ	210626	2.98	316672	4.19	434875	4.75	366013	7.14	176205	9.34
JC86494-4MS	213629	2.99	310584	4.19	437128	4.75	377179	7.14	178906	9.34
JC86494-4MSD	207906	2.99	310186	4.19	436280	4.75	378041	7.14	175101	9.34
ZZZZZZ	210866	2.98	316723	4.19	434827	4.75	370935	7.14	174789	9.34
ZZZZZZ	210670	2.98	320835	4.19	438589	4.75	374727	7.14	174570	9.34
ZZZZZZ	207536	2.98	316538	4.19	440650	4.75	376168	7.14	179124	9.34
JC86426-1	197355	2.98	311812	4.19	431843	4.75	364691	7.14	170214	9.34
ZZZZZZ	209093	2.98	322835	4.19	446685	4.75	377260	7.14	178464	9.34
ZZZZZZ	197534	2.98	314024	4.19	430930	4.75	367642	7.14	173218	9.34
ZZZZZZ	193033	2.98	310202	4.19	431554	4.75	370068	7.14	175131	9.34
ZZZZZZ	203458	2.98	326783	4.19	452052	4.75	388383	7.14	183008	9.34
ZZZZZZ	203824	2.98	305981	4.19	428255	4.75	365648	7.14	172301	9.34
ZZZZZZ	205767	2.99	298003	4.19	416450	4.75	358996	7.14	173448	9.34
ZZZZZZ	207383	2.98	313474	4.19	432111	4.75	362106	7.14	165713	9.34

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Surrogate Recovery Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC86426-1	3D146752.D	98	98	103	99
JC86426-1	3D146718.D	99	98	104	99
JC86426-2	3D146719.D	100	99	103	100
JC86426-3	3D146720.D	100	99	102	99
JC86426-4	3D146721.D	101	101	102	98
JC86426-5	3D146722.D	102	98	102	99
JC86494-4MS	3D146746.D	102	96	102	100
JC86494-4MSD	3D146747.D	102	97	101	100
JC86495-2MS	3D146712.D	103	99	103	99
JC86495-2MSD	3D146713.D	101	96	102	99
V3D6273-BS	3D146707.D	104	96	102	100
V3D6273-BSD	3D146708.D	101	95	103	100
V3D6273-MB	3D146710.D	100	97	103	99
V3D6274-BS	3D146737.D	101	98	102	101
V3D6274-BSD	3D146738.D	99	96	104	100
V3D6274-MB	3D146740.D	100	100	103	99

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	80-120%
S2 = 1,2-Dichloroethane-D4	81-124%
S3 = Toluene-D8	80-120%
S4 = 4-Bromofluorobenzene	80-120%

Initial Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6212-ICC6212
Lab FileID: 3D145277.D

Response Factor Report MS3D

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
Last Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Calibration Files
1 =3D145272.D 0.5 =3D145271.D 100 =3D145278.D 50 =3D145277.D
20 =3D145276.D 200 =3D145279.D 4 =3D145274.D 2 =3D145273.D
8 =3D145275.D 0.2 =3D145270.D = =

Compound	1	0.5	100	50	20	200	4	2	8	0.2	Avg	%RSD
1) tert butyl alcohol-d9	----------ISTD----------											
2) tertiary butyl alcohol	1.429	1.270	1.229	1.244	1.253	1.258	1.206	1.308	1.247	1.499	1.294	7.32
3) ethanol	0.144	0.116	0.109	0.114	0.117	0.103	0.114	0.124	0.119	0.141	0.120	10.95
4) 1,4-dioxane	0.131	0.107	0.113	0.115	0.120	0.115	0.110	0.119	0.119		0.117	5.89
5) I pentafluorobenzene	----------ISTD----------											
6) chlorodifluoromethane	0.502	0.444	0.459	0.456	0.453	0.459	0.426	0.474	0.445	0.428	0.455	4.86
7) dichlorodifluoromethane	0.500	0.531	0.523	0.533	0.530	0.514	0.506	0.491	0.509	0.401	0.504	7.67
8) chloromethane	0.485	0.501	0.462	0.468	0.462	0.474	0.461	0.449	0.456		0.469	3.36
9) vinyl chloride	0.471	0.463	0.493	0.499	0.494	0.497	0.456	0.456	0.483	0.437	0.475	4.52
10) 1,3-butadiene	0.444	0.359	0.385	0.385	0.389	0.381	0.369	0.402	0.390	0.423	0.393	6.37
11) bromomethane	0.191		0.178	0.180	0.185	0.147	0.170	0.184	0.185		0.178	7.65
12) chloroethane	0.319	0.357	0.289	0.293	0.291	0.272	0.289	0.280	0.281	0.266	0.294	9.04
13) trichlorofluoromethane	0.577	0.602	0.601	0.618	0.607	0.595	0.589	0.556	0.597	0.628	0.597	3.37
14) vinyl bromide	0.282	0.264	0.286	0.288	0.282	0.291	0.270	0.254	0.273	0.281	0.277	4.18
15) ethyl ether	0.242	0.237	0.224	0.225	0.221	0.225	0.203	0.237	0.217	0.181	0.221	8.20
16) acrolein	0.092	0.090	0.089	0.090	0.085	0.089	0.091	0.083	0.084	0.081	0.087	4.39
17) freon 113	0.356	0.314	0.324	0.324	0.329	0.326	0.320	0.333	0.319		0.327	3.74
18) 1,1-dichloroethene	0.385	0.290	0.349	0.345	0.348	0.352	0.316	0.330	0.337	0.265	0.332	10.31
19) acetone	0.057		0.050	0.049	0.049	0.050	0.048	0.048	0.049		0.050	5.76
20) acetonitrile	0.092	0.080	0.074	0.073	0.073	0.073	0.071	0.076	0.073		0.076	8.41
21) iodomethane *This compound fails Initial Calibration criteria*			0.252	0.195	0.102	0.280	0.038	0.037	0.057		0.137	75.39
22) carbon disulfide	1.058	0.950	0.889	0.872	0.872	0.911	0.847	0.887	0.854		0.904	7.23
23) methylene chloride												

```
      0.418 0.367 0.351 0.348 0.348 0.352 0.355 0.375 0.353 0.455  0.372    9.69
24)  methyl acetate
      0.491 0.419 0.402 0.392 0.399 0.394 0.398 0.418 0.392 0.427  0.413    7.25
25)  methyl tert butyl ether
      1.247 1.053 1.117 1.103 1.113 1.116 1.073 1.106 1.117 1.050  1.109    4.95
26)  trans-1,2-dichloroethene
      0.408 0.376 0.365 0.365 0.365 0.371 0.347 0.362 0.361 0.408  0.373    5.40
27)  di-isopropyl ether
      1.430 1.212 1.239 1.250 1.242 1.241 1.201 1.255 1.236 1.181  1.249    5.45
28)  2-butanone
      0.077 0.062 0.070 0.069 0.068 0.069 0.063 0.067 0.069 0.060  0.068    7.02
29)  1,1-dichloroethane
      0.701 0.607 0.625 0.627 0.631 0.627 0.610 0.634 0.630 0.575  0.627    5.04
30)  chloroprene
      0.683 0.524 0.610 0.611 0.607 0.609 0.581 0.592 0.612 0.551  0.598    7.05
31)  acrylonitrile
      0.206 0.161 0.196 0.194 0.191 0.195 0.193 0.197 0.192        0.192    6.42
32)  hexane
      0.352 0.309 0.314 0.308 0.307 0.307 0.301 0.320 0.309        0.314    4.84
33)  vinyl acetate
      0.112 0.091 0.112 0.110 0.111 0.114 0.100 0.104 0.106        0.107    6.78
34)  ethyl tert-butyl ether
      1.300 1.151 1.190 1.192 1.188 1.201 1.160 1.187 1.184 1.114  1.187    4.01
35)  ethyl acetate
      0.090       0.082 0.082 0.080 0.082 0.087 0.080 0.087        0.084    4.50
36)  2,2-dichloropropane
      0.637 0.529 0.527 0.531 0.543 0.527 0.507 0.549 0.531 0.523  0.540    6.64
37)  cis-1,2-dichloroethene
      0.433 0.362 0.397 0.394 0.399 0.401 0.388 0.386 0.394 0.457  0.401    6.59
38)  methyl acrylate
      0.078       0.082 0.081 0.079 0.082 0.072 0.080 0.076        0.079    4.30
39)  propionitrile
      0.097 0.081 0.084 0.083 0.083 0.083 0.083 0.082 0.083 0.074  0.083    6.88
40)  bromochloromethane
      0.211 0.165 0.174 0.179 0.183 0.171 0.178 0.190 0.177 0.157  0.178    8.17
41)  tetrahydrofuran
      0.094       0.075 0.074 0.075 0.073 0.070 0.065 0.074        0.075   11.10
42)  chloroform
      0.443 0.402 0.391 0.390 0.389 0.393 0.386 0.395 0.397 0.505  0.409    9.15
43)  t-butyl formate
      0.350 0.288 0.370 0.359 0.355 0.374 0.320 0.316 0.333        0.341    8.27
44)  dibromofluoromethane (s)
      0.357 0.354 0.360 0.359 0.356 0.354 0.354 0.356 0.356 0.346  0.355    1.04
45)  methacrylonitrile
      0.212 0.160 0.208 0.205 0.200 0.207 0.193 0.206 0.202        0.199    7.86
46)  1,1,1-trichloroethane
      0.618 0.562 0.565 0.561 0.562 0.572 0.528 0.578 0.548 0.531  0.563    4.51
47)  cyclohexane
      0.604 0.640 0.579 0.589 0.586 0.587 0.579 0.575 0.568 0.663  0.597    5.15
48)  1,1-dichloropropene
      0.612 0.498 0.522 0.514 0.515 0.526 0.479 0.522 0.517 0.483  0.519    7.05
49)  iso-butyl alcohol
      0.039 0.034 0.033 0.032 0.031 0.034 0.032 0.032 0.031        0.033    7.55
50)  carbon tetrachloride
      0.475 0.440 0.485 0.472 0.468 0.492 0.442 0.459 0.468 0.394  0.460    6.16
51)  tert amyl alcohol
      0.035 0.028 0.028 0.028 0.028 0.027 0.028 0.026 0.028        0.028    9.09

52) I   1,4-difluorobenzene   ----------------ISTD---------------------
53)  1,2-dichloroethane-d4 (s)
```

```
      0.284 0.286 0.276 0.276 0.273 0.268 0.286 0.289 0.285 0.285  0.281    2.45
54)  n-butyl alcohol
      0.018 0.015 0.017 0.016 0.016 0.017 0.015 0.015 0.016        0.016    6.68
55)  2,2,4-trimethylpentane
      0.789 0.723 0.694 0.687 0.692 0.697 0.685 0.730 0.709 0.685  0.709    4.54
56)  benzene
      1.194 1.110 1.053 1.050 1.069 1.058 1.033 1.098 1.061 1.042  1.077    4.42
57)  tert-amyl methyl ether
      0.229 0.212 0.207 0.207 0.210 0.211 0.202 0.211 0.211 0.194  0.209    4.24
58)  heptane
      0.208 0.187 0.183 0.181 0.181 0.182 0.173 0.192 0.183 0.161  0.183    6.55
59)  isopropyl acetate
      0.097       0.090 0.089 0.090 0.090 0.084 0.085 0.086        0.089    4.54
60)  1,2-dichloroethane
      0.454       0.337 0.343 0.345 0.339 0.354 0.368 0.356        0.362   10.70
61)  trichloroethene
      0.310 0.265 0.289 0.286 0.288 0.292 0.271 0.298 0.285 0.313  0.290    5.19
62)  ethyl acrylate
      0.472 0.423 0.454 0.449 0.452 0.456 0.438 0.445 0.441 0.391  0.442    4.98
63)  2-nitropropane
      0.088 0.086 0.085 0.078 0.074 0.088 0.077 0.067 0.072        0.079    9.37
64)  2-chloroethyl vinyl ether
      0.171 0.146 0.199 0.195 0.191 0.200 0.170 0.172 0.182        0.181    9.78
65)  methyl methacrylate
      0.398 0.373 0.338 0.336 0.332 0.337 0.319 0.330 0.330 0.422  0.352    9.76
66)  1,2-dichloropropane
      0.291 0.248 0.259 0.259 0.258 0.261 0.251 0.262 0.256        0.261    4.70
67)  dibromomethane
      0.174 0.149 0.155 0.154 0.154 0.156 0.155 0.154 0.152 0.126  0.153    7.67
68)  methylcyclohexane
                  0.445 0.441 0.440 0.444 0.455 0.514 0.452        0.456    5.75
69)  bromodichloromethane
      0.357 0.307 0.332 0.324 0.317 0.337 0.306 0.302 0.310 0.294  0.319    5.97
70)  epichlorohydrin
      0.045 0.038 0.046 0.045 0.045 0.044 0.041 0.042 0.043        0.043    5.70
71)  cis-1,3-dichloropropene
      0.436 0.365 0.424 0.418 0.415 0.431 0.392 0.422 0.407 0.475  0.419    6.83
72)  4-methyl-2-pentanone
      0.166 0.139 0.151 0.150 0.151 0.149 0.147 0.150 0.151 0.134  0.149    5.59
73)  3-methyl-1-butanol
      0.024 0.018 0.025 0.024 0.023 0.025 0.022 0.021 0.023        0.023    8.69

74) I   chlorobenzene-d5      ----------------ISTD--------------------
75)  toluene-d8 (s)
      1.263 1.272 1.260 1.264 1.277 1.265 1.262 1.277 1.283 1.277  1.270    0.65
76)  toluene
      0.873 0.796 0.786 0.787 0.791 0.802 0.798 0.813 0.800 0.862  0.811    3.84
77)  trans-1,3-dichloropropene
      0.483 0.436 0.452 0.451 0.443 0.468 0.420 0.426 0.436 0.519  0.453    6.57
78)  ethyl methacrylate
      0.519 0.437 0.490 0.491 0.489 0.498 0.455 0.450 0.484 0.436  0.475    5.93
79)  1,1,2-trichloroethane
      0.254 0.202 0.227 0.230 0.231 0.231 0.225 0.237 0.228        0.230    5.80
80)  tetrachloroethene
      0.318 0.269 0.280 0.283 0.284 0.286 0.269 0.277 0.283 0.291  0.284    4.88
81)  1,3-dichloropropane
      0.552 0.457 0.472 0.480 0.482 0.488 0.457 0.492 0.479 0.435  0.479    6.45
82)  2-hexanone
      0.202 0.161 0.183 0.185 0.184 0.183 0.178 0.177 0.183 0.164  0.180    6.37
83)  butyl acetate
```

```
      0.308 0.249 0.287 0.294 0.287 0.293 0.281 0.284 0.286 0.274  0.284    5.41
 84)  dibromochloromethane
      0.296 0.251 0.296 0.288 0.272 0.308 0.254 0.257 0.264 0.232  0.272    9.00
 85)  1,2-dibromoethane
      0.404 0.324 0.358 0.362 0.359 0.366 0.346 0.341 0.356 0.426  0.364    8.17
 86)  n-butyl ether
      1.455 1.157 1.296 1.303 1.298 1.323 1.236 1.306 1.325 1.267  1.297    5.79
 87)  chlorobenzene
      0.968 0.870 0.826 0.842 0.834 0.854 0.827 0.879 0.843 0.891  0.863    4.96
 88)  1,1,1,2-tetrachloroethane
      0.298 0.274 0.293 0.291 0.284 0.302 0.251 0.277 0.274        0.283    5.60
 89)  ethylbenzene
      1.680 1.400 1.453 1.478 1.485 1.482 1.425 1.510 1.484 1.449  1.484    5.11
 90)  m,p-xylene
      0.658 0.571 0.567 0.575 0.576 0.577 0.553 0.592 0.579 0.582  0.583    4.83
 91)  o-xylene
      0.645 0.555 0.541 0.551 0.552 0.552 0.545 0.539 0.555 0.582  0.562    5.64
 92)  styrene
      1.038 0.880 0.947 0.956 0.948 0.963 0.914 0.941 0.948 0.888  0.942    4.69
 93)  bromoform
      0.197       0.226 0.215 0.201 0.238 0.169 0.181 0.187        0.202   11.60
 94)  butyl acrylate
      0.709 0.605 0.713 0.718 0.704 0.726 0.647 0.625 0.680 0.557  0.668    8.59
 95)  n-amyl acetate
      0.325 0.242 0.297 0.299 0.296 0.298 0.275 0.283 0.288        0.289    7.79
 96)  isopropylbenzene
      1.575 1.412 1.407 1.420 1.419 1.422 1.373 1.409 1.430 1.311  1.418    4.60
 97)  cis-1,4-dichloro-2-butene
      0.142       0.169 0.167 0.153 0.174 0.134 0.137 0.140        0.152   10.58

 98) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
 99)  4-bromofluorobenzene (s)
      0.938 0.948 0.951 0.945 0.946 0.953 0.943 0.936 0.940 0.940  0.944    0.61
100)  bromobenzene
      0.924 0.814 0.777 0.783 0.786 0.802 0.772 0.780 0.767 0.728  0.793    6.47
101)  1,1,2,2-tetrachloroethane
      0.959 0.791 0.886 0.894 0.877 0.908 0.841 0.870 0.866 0.782  0.867    6.07
102)  trans-1,4-dichloro-2-butene
      0.292       0.267 0.261 0.257 0.273 0.242 0.239 0.239        0.259    7.31
103)  1,2,3-trichloropropane
      0.338 0.290 0.295 0.293 0.296 0.302 0.301 0.286 0.302        0.300    5.06
104)  n-propylbenzene
      3.702 3.414 3.457 3.406 3.438 3.514 3.230 3.312 3.300 3.388  3.416    3.82
105)  2-chlorotoluene
      0.824 0.688 0.717 0.711 0.723 0.738 0.682 0.691 0.693 0.648  0.711    6.59
106)  4-chlorotoluene
      0.801 0.741 0.716 0.711 0.714 0.736 0.669 0.714 0.693 0.627  0.712    6.42
107)  1,3,5-trimethylbenzene
      2.698 2.289 2.416 2.405 2.434 2.464 2.289 2.376 2.375 2.353  2.410    4.82
108)  tert-butylbenzene
      0.600 0.498 0.537 0.526 0.541 0.549 0.521 0.537 0.525        0.537    5.16
109)  1,2,4-trimethylbenzene
      2.683 2.294 2.399 2.384 2.377 2.457 2.233 2.316 2.377 2.250  2.377    5.40
110)  sec-butylbenzene
      3.090 2.740 2.904 2.853 2.867 2.914 2.663 2.768 2.822 2.523  2.814    5.48
111)  1,3-dichlorobenzene
      1.539 1.339 1.374 1.371 1.388 1.413 1.314 1.385 1.365 1.529  1.402    5.33
112)  p-isopropyltoluene
      2.721 2.274 2.473 2.455 2.440 2.517 2.310 2.391 2.424 2.519  2.453    5.05
113)  1,4-dichlorobenzene
```

Initial Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6212-ICC6212
Lab FileID: 3D145277.D

```
       1.592 1.401 1.406 1.393 1.402 1.429 1.366 1.431 1.383        1.423    4.69
114)  benzyl chloride
       1.777 1.487 1.780 1.776 1.701 1.863 1.496 1.531 1.561 1.617  1.659    8.27
115)  1,2-dichlorobenzene
       1.433 1.349 1.300 1.298 1.336 1.343 1.255 1.364 1.291 1.424  1.339    4.28
116)  n-butylbenzene
       1.178 0.955 1.147 1.118 1.107 1.164 1.044 1.041 1.079 1.007  1.084    6.66
117)  1,2-dibromo-3-chloropropane
       0.175       0.194 0.190 0.177 0.208 0.163 0.156 0.164        0.178   10.01
118)  1,3,5-trichlorobenzene
       1.031 0.897 0.955 0.944 0.929 0.988 0.871 0.882 0.917 1.049  0.946    6.41
119)  2-ethylhexyl acrylate
                   0.506 0.471 0.397 0.547             0.366        0.457   16.44
120)  1,2,4-trichlorobenzene
       0.815 0.757 0.877 0.840 0.828 0.898 0.771 0.758 0.789 0.862  0.819    6.14
121)  hexachlorobutadiene
       0.334 0.314 0.336 0.330 0.320 0.355 0.297 0.296 0.323        0.323    5.87
122)  naphthalene
       2.702 2.396 2.704 2.626 2.554 2.789 2.331 2.351 2.393 3.160  2.601    9.87
123)  1,2,3-trichlorobenzene
       0.831 0.688 0.808 0.788 0.756 0.825 0.705 0.695 0.749 0.660  0.750    8.20
124)  hexachloroethane
       0.331       0.390 0.368 0.336 0.419 0.297 0.313 0.307        0.345   12.58
125)  2-methylnaphthalene
                   1.248 1.156 0.998 1.279 0.825       0.905        1.069   17.51
126)  Bis(chloromethyl)ether
                                                                    0.000#  -1.00
127)  Ethylenimine
                                                                    0.000#  -1.00
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M3D6212.M         Fri Mar 08 17:12:13 2019   3D
```

Initial Calibration Verification

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6212-ICV6212
Lab FileID: 3D145282.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V3D6212\3D145282.D Vial: 14
Acq On : 7 Mar 2019 11:39 pm Operator: juntaep
Sample : icv6212-50 Inst : MS3D
Misc : MS32815,V3D6212,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
Last Update : Fri Mar 08 17:11:15 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1		tert butyl alcohol-d9	1.000	1.000	0.0	96	0.00	2.99
2	M	tertiary butyl alcohol	1.294	1.301	-0.5	100	0.00	3.04
3		ethanol	0.120	0.121	-0.8	102	0.00	2.42
4	M	1,4-dioxane	0.117	0.125	-6.8	105	0.00	5.18
5	I	pentafluorobenzene	1.000	1.000	0.0	96	0.00	4.19
6	M	chlorodifluoromethane	0.455	0.429	5.7	90	0.00	1.61
7	M	dichlorodifluoromethane	0.504	0.520	-3.2	93	0.00	1.60
8	M	chloromethane	0.469	0.512	-9.2	105	0.00	1.75
9	M	vinyl chloride	0.475	0.479	-0.8	92	0.00	1.83
10		1,3-butadiene	0.393	0.401	-2.0	100	0.00	1.86
11	M	bromomethane	0.178	0.213	-19.7	113	0.00	2.07
12	M	chloroethane	0.294	0.263	10.5	86	0.00	2.15
13	M	trichlorofluoromethane	0.597	0.580	2.8	90	0.00	2.33
14		vinyl bromide	0.277	0.285	-2.9	95	0.00	2.29
15	M	ethyl ether	0.221	0.231	-4.5	98	0.00	2.51
16	M	acrolein	0.087	0.104	-19.5	111	0.00	2.61
17		freon 113	0.327	0.329	-0.6	97	0.00	2.69
18	M	1,1-dichloroethene	0.332	0.310	6.6	86	0.00	2.69
19	M	acetone	0.050	0.052	-4.0	102	0.00	2.69
20	M	acetonitrile	0.076	0.075	1.3	98	0.00	2.88
21	M	iodomethane	0.137	0.158	-15.3	77	0.00	2.80
22	M	carbon disulfide	0.904	0.911	-0.8	100	0.00	2.86
23	M	methylene chloride	0.372	0.349	6.2	96	0.00	3.01
24	M	methyl acetate	0.413	0.401	2.9	98	0.00	2.90
25	M	methyl tert butyl ether	1.109	1.157	-4.3	101	0.00	3.18
26	M	trans-1,2-dichloroethene	0.373	0.349	6.4	92	0.00	3.19
27	M	di-isopropyl ether	1.249	1.212	3.0	93	0.00	3.48
28	M	2-butanone	0.068	0.073	-7.4	100	0.00	3.84
29	M	1,1-dichloroethane	0.627	0.620	1.1	95	0.00	3.49
30	M	chloroprene	0.598	0.613	-2.5	96	0.00	3.54
31	M	acrylonitrile	0.192	0.218	-13.5	108	0.00	3.15
32		hexane	0.314	0.254	19.1	79	0.00	3.38
33	M	vinyl acetate	0.107	0.106	0.9	93	0.00	3.46
34	M	ethyl tert-butyl ether	1.187	1.184	0.3	95	0.00	3.72
35	M	ethyl acetate	0.084	0.084	0.0	98	0.00	3.85
36	M	2,2-dichloropropane	0.540	0.504	6.7	91	0.00	3.88
37	M	cis-1,2-dichloroethene	0.401	0.407	-1.5	99	0.00	3.87
38		methyl acrylate	0.079	0.084	-6.3	99	0.00	3.89
39	M	propionitrile	0.083	0.088	-6.0	102	0.00	3.88
40	M	bromochloromethane	0.178	0.184	-3.4	98	0.00	4.04
41	M	tetrahydrofuran	0.075	0.079	-5.3	101	0.00	4.04

Initial Calibration Verification

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6212-ICV6212
Lab FileID: 3D145282.D

42	M	chloroform	0.409	0.392	4.2	96	0.00	4.09
43	M	t-butyl formate	0.341	0.330	3.2	88	0.00	4.11
44	S	dibromofluoromethane (s)	0.355	0.365	-2.8	97	0.00	4.20
45	M	methacrylonitrile	0.199	0.211	-6.0	99	0.00	3.99
46	M	1,1,1-trichloroethane	0.563	0.542	3.7	93	0.00	4.23
47		cyclohexane	0.597	0.543	9.0	88	0.00	4.29
48		1,1-dichloropropene	0.519	0.512	1.3	95	0.00	4.33
49		iso-butyl alcohol	0.033	0.035	-6.1	104	0.00	4.33
50		carbon tetrachloride	0.460	0.465	-1.1	94	0.00	4.35
51		tert amyl alcohol	0.028	0.030	-7.1	105	0.00	4.43
52	I	1,4-difluorobenzene	1.000	1.000	0.0	96	0.00	4.75
53	S	1,2-dichloroethane-d4 (s)	0.281	0.277	1.4	96	0.00	4.45
54	M	n-butyl alcohol	0.016	0.017	-6.3	102	0.00	4.81
55		2,2,4-trimethylpentane	0.709	0.650	8.3	91	0.00	4.55
56	M	benzene	1.077	1.062	1.4	97	0.00	4.48
57	M	tert-amyl methyl ether	0.209	0.205	1.9	95	0.00	4.54
58	M	heptane	0.183	0.189	-3.3	100	0.00	4.66
59	M	isopropyl acetate	0.089	0.089	0.0	95	0.00	4.45
60	M	1,2-dichloroethane	0.362	0.351	3.0	98	0.00	4.50
61	M	trichloroethene	0.290	0.290	0.0	97	0.00	4.95
62		ethyl acrylate	0.442	0.481	-8.8	103	0.00	4.96
63	M	2-nitropropane	0.079	0.087	-10.1	106	0.00	5.49
64	M	2-chloroethyl vinyl ether	0.181	0.212	-17.1	104	0.00	5.53
65	M	methyl methacrylate	0.352	0.354	-0.6	101	0.00	5.14
66	M	1,2-dichloropropane	0.261	0.264	-1.1	98	0.00	5.14
67	M	dibromomethane	0.153	0.162	-5.9	101	0.00	5.21
68	M	methylcyclohexane	0.456	0.418	8.3	91	0.00	5.14
69	M	bromodichloromethane	0.319	0.331	-3.8	98	0.00	5.33
70		epichlorohydrin	0.043	0.046	-7.0	97	0.00	5.58
71	M	cis-1,3-dichloropropene	0.419	0.433	-3.3	99	0.00	5.67
72	M	4-methyl-2-pentanone	0.149	0.160	-7.4	103	0.00	5.77
73	M	3-methyl-1-butanol	0.023	0.027	-17.4	105	0.00	5.79
74	I	chlorobenzene-d5	1.000	1.000	0.0	97	0.00	7.14
75	S	toluene-d8 (s)	1.270	1.256	1.1	96	0.00	5.90
76		toluene	0.811	0.809	0.2	100	0.00	5.96
77		trans-1,3-dichloropropene	0.453	0.448	1.1	96	0.00	6.12
78		ethyl methacrylate	0.475	0.490	-3.2	97	0.00	6.14
79		1,1,2-trichloroethane	0.230	0.239	-3.9	101	0.00	6.29
80	M	tetrachloroethene	0.284	0.284	0.0	97	0.00	6.39
81	M	1,3-dichloropropane	0.479	0.507	-5.8	102	0.00	6.44
82		2-hexanone	0.180	0.193	-7.2	102	0.00	6.46
83	M	butyl acetate	0.284	0.305	-7.4	100	0.00	6.54
84	M	dibromochloromethane	0.272	0.312	-14.7	105	0.00	6.63
85	M	1,2-dibromoethane	0.364	0.377	-3.6	101	0.00	6.74
86		n-butyl ether	1.297	1.353	-4.3	101	0.00	7.22
87	M	chlorobenzene	0.863	0.851	1.4	98	0.00	7.17
88	M	1,1,1,2-tetrachloroethane	0.283	0.307	-8.5	102	0.00	7.24
89	M	ethylbenzene	1.484	1.499	-1.0	98	0.00	7.25
90	M	m,p-xylene	0.583	0.585	-0.3	99	0.00	7.36
91	M	o-xylene	0.562	0.561	0.2	99	0.00	7.72
92	M	styrene	0.942	0.990	-5.1	100	0.00	7.74
93	M	bromoform	0.202	0.238	-17.8	107	0.00	7.91
94		butyl acrylate	0.668	0.753	-12.7	101	0.00	7.64
95		n-amyl acetate	0.289	0.291	-0.7	94	0.00	7.85
96		isopropylbenzene	1.418	1.451	-2.3	99	0.00	8.06
97		cis-1,4-dichloro-2-butene	0.152	0.167	-9.9	97	0.00	8.10
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	97	0.00	9.34

Initial Calibration Verification

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6212-ICV6212
Lab FileID: 3D145282.D

99	S	4-bromofluorobenzene (s)	0.944	0.943	0.1	97	0.00	8.22
100	M	bromobenzene	0.793	0.803	-1.3	100	0.00	8.37
101	M	1,1,2,2-tetrachloroethane	0.867	0.922	-6.3	100	0.00	8.34
102	M	trans-1,4-dichloro-2-bute	0.259	0.308	-18.9	115	0.00	8.38
103	M	1,2,3-trichloropropane	0.300	0.305	-1.7	101	0.00	8.39
104	M	n-propylbenzene	3.416	3.459	-1.3	99	0.00	8.45
105	M	2-chlorotoluene	0.711	0.720	-1.3	99	0.00	8.55
106	M	4-chlorotoluene	0.712	0.754	-5.9	103	0.00	8.66
107	M	1,3,5-trimethylbenzene	2.410	2.423	-0.5	98	0.00	8.62
108	M	tert-butylbenzene	0.537	0.593	-10.4	110	0.00	8.93
109	M	1,2,4-trimethylbenzene	2.377	2.499	-5.1	102	0.00	8.99
110	M	sec-butylbenzene	2.814	2.893	-2.8	99	0.00	9.14
111	M	1,3-dichlorobenzene	1.402	1.420	-1.3	101	0.00	9.27
112	M	p-isopropyltoluene	2.453	2.497	-1.8	99	0.00	9.29
113	M	1,4-dichlorobenzene	1.423	1.428	-0.4	100	0.00	9.36
114		benzyl chloride	1.659	1.400	15.6	77	0.00	9.47
115	M	1,2-dichlorobenzene	1.339	1.346	-0.5	101	0.00	9.72
116	M	n-butylbenzene	1.084	1.135	-4.7	99	0.00	9.69
117	M	1,2-dibromo-3-chloropropa	0.178	0.191	-7.3	97	0.00	10.48
118		1,3,5-trichlorobenzene	0.946	0.964	-1.9	99	0.00	10.68
119		2-ethylhexyl acrylate	0.457	0.570	-24.7	118	0.00	11.48
120	M	1,2,4-trichlorobenzene	0.819	0.869	-6.1	101	0.00	11.31
121	M	hexachlorobutadiene	0.323	0.329	-1.9	97	0.00	11.45
122	M	naphthalene	2.601	2.750	-5.7	102	0.00	11.57
123	M	1,2,3-trichlorobenzene	0.750	0.806	-7.5	100	0.00	11.79
124	m	hexachloroethane	0.345	0.384	-11.3	102	0.00	9.99
125		2-methylnaphthalene	1.069	1.186	-10.9	100	0.00	12.70
126		Bis(chloromethyl)ether		----------NA----------				
127		Ethylenimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D145277.D M3D6212.M Fri Mar 08 17:11:58 2019 3D

Continuing Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6273-CC6212
Lab FileID: 3D146705.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ke...19\v3d6273\3d146705.d Vial: 51
Acq On : 17 Apr 2019 6:36 pm Operator: JessicaP
Sample : CC6212-50 Inst : MS3D
Misc : MS34069,V3D6273,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
Last Update : Fri Mar 08 17:11:15 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1		tert butyl alcohol-d9	1.000	1.000	0.0	98	0.00	2.99
2	M	tertiary butyl alcohol	1.294	1.239	4.3	98	0.00	3.04
3		ethanol	0.120	0.131	-9.2	114	0.00	2.42
4	M	1,4-dioxane	0.117	0.117	0.0	100	0.00	5.18
5	I	pentafluorobenzene	1.000	1.000	0.0	100	0.00	4.19
6	M	chlorodifluoromethane	0.455	0.385	15.4	84	0.00	1.61
7	M	dichlorodifluoromethane	0.504	0.413	18.1	77	0.00	1.60
8	M	chloromethane	0.469	0.419	10.7	89	0.00	1.75
9	M	vinyl chloride	0.475	0.467	1.7	93	0.00	1.83
10		1,3-butadiene	0.393	0.351	10.7	91	0.00	1.86
11	M	bromomethane	0.178	0.137	23.0#	76	0.00	2.07
12	M	chloroethane	0.294	0.286	2.7	97	0.00	2.15
13	M	trichlorofluoromethane	0.597	0.551	7.7	89	0.00	2.33
14		vinyl bromide	0.277	0.245	11.6	85	0.00	2.29
15	M	ethyl ether	0.221	0.245	-10.9	108	0.00	2.51
16	M	acrolein	0.087	0.091	-4.6	101	0.00	2.61
17		freon 113	0.327	0.266	18.7	82	0.00	2.69
18	M	1,1-dichloroethene	0.332	0.339	-2.1	98	0.00	2.69
19	M	acetone	0.050	0.055	-10.0	112	0.00	2.69
20	M	acetonitrile	0.076	0.083	-9.2	113	0.00	2.88
21	M	iodomethane	0.137	0.116	15.3	59	0.00	2.80
22	M	carbon disulfide	0.904	0.875	3.2	100	0.00	2.86
23	M	methylene chloride	0.372	0.374	-0.5	107	0.00	3.01
24	M	methyl acetate	0.413	0.428	-3.6	109	0.00	2.90
25	M	methyl tert butyl ether	1.109	1.180	-6.4	107	0.00	3.18
26	M	trans-1,2-dichloroethene	0.373	0.375	-0.5	102	0.00	3.19
27	M	di-isopropyl ether	1.249	1.384	-10.8	110	0.00	3.48
28	M	2-butanone	0.068	0.075	-10.3	108	0.00	3.83
29	M	1,1-dichloroethane	0.627	0.667	-6.4	106	0.00	3.49
30	M	chloroprene	0.598	0.606	-1.3	99	0.00	3.54
31	M	acrylonitrile	0.192	0.218	-13.5	112	0.00	3.15
32		hexane	0.314	0.268	14.6	87	0.00	3.38
33	M	vinyl acetate	0.107	0.112	-4.7	102	0.00	3.46
34	M	ethyl tert-butyl ether	1.187	1.260	-6.1	105	0.00	3.72
35	M	ethyl acetate	0.084	0.090	-7.1	109	0.00	3.85
36	M	2,2-dichloropropane	0.540	0.539	0.2	101	0.00	3.88
37	M	cis-1,2-dichloroethene	0.401	0.416	-3.7	105	0.00	3.86
38		methyl acrylate	0.079	0.085	-7.6	104	0.00	3.89
39	M	propionitrile	0.083	0.093	-12.0	112	0.00	3.88
40	M	bromochloromethane	0.178	0.193	-8.4	107	0.00	4.03
41	M	tetrahydrofuran	0.075	0.080	-6.7	107	0.00	4.04

Continuing Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6273-CC6212
Lab FileID: 3D146705.D

42	M	chloroform	0.409	0.403	1.5	103	0.00	4.08
43	M	t-butyl formate	0.341	0.324	5.0	90	0.00	4.10
44	S	dibromofluoromethane (s)	0.355	0.368	-3.7	102	0.00	4.19
45	M	methacrylonitrile	0.199	0.224	-12.6	109	0.00	3.99
46	M	1,1,1-trichloroethane	0.563	0.543	3.6	96	0.00	4.23
47		cyclohexane	0.597	0.561	6.0	95	0.00	4.29
48		1,1-dichloropropene	0.519	0.527	-1.5	102	0.00	4.33
49		iso-butyl alcohol	0.033	0.034	-3.0	106	0.00	4.33
50		carbon tetrachloride	0.460	0.456	0.9	96	0.00	4.34
51		tert amyl alcohol	0.028	0.030	-7.1	107	0.00	4.43
52	I	1,4-difluorobenzene	1.000	1.000	0.0	100	0.00	4.75
53	S	1,2-dichloroethane-d4 (s)	0.281	0.272	3.2	99	0.00	4.44
54	M	n-butyl alcohol	0.016	0.017	-6.3	106	0.00	4.81
55		2,2,4-trimethylpentane	0.709	0.670	5.5	98	0.00	4.55
56	M	benzene	1.077	1.118	-3.8	107	0.00	4.48
57	M	tert-amyl methyl ether	0.209	0.208	0.5	101	0.00	4.54
58	M	heptane	0.183	0.172	6.0	95	0.00	4.66
59	M	isopropyl acetate	0.089	0.090	-1.1	102	0.00	4.45
60	M	1,2-dichloroethane	0.362	0.340	6.1	100	0.00	4.50
61	M	trichloroethene	0.290	0.285	1.7	100	0.00	4.95
62		ethyl acrylate	0.442	0.487	-10.2	109	0.00	4.96
63	M	2-nitropropane	0.079	0.081	-2.5	104	0.00	5.49
64	M	2-chloroethyl vinyl ether	0.181	0.204	-12.7	105	0.00	5.52
65	M	methyl methacrylate	0.352	0.346	1.7	104	0.00	5.14
66	M	1,2-dichloropropane	0.261	0.285	-9.2	111	0.00	5.14
67	M	dibromomethane	0.153	0.160	-4.6	104	0.00	5.21
68	M	methylcyclohexane	0.456	0.416	8.8	95	0.00	5.14
69	M	bromodichloromethane	0.319	0.339	-6.3	105	0.00	5.33
70		epichlorohydrin	0.043	0.048	-11.6	107	0.00	5.57
71	M	cis-1,3-dichloropropene	0.419	0.445	-6.2	107	0.00	5.67
72	M	4-methyl-2-pentanone	0.149	0.166	-11.4	111	0.00	5.77
73	M	3-methyl-1-butanol	0.023	0.024	-4.3	101	0.00	5.78
74	I	chlorobenzene-d5	1.000	1.000	0.0	102	0.00	7.14
75	S	toluene-d8 (s)	1.270	1.289	-1.5	104	0.00	5.89
76		toluene	0.811	0.823	-1.5	106	0.00	5.96
77		trans-1,3-dichloropropene	0.453	0.463	-2.2	105	0.00	6.12
78		ethyl methacrylate	0.475	0.515	-8.4	107	0.00	6.14
79		1,1,2-trichloroethane	0.230	0.244	-6.1	108	0.00	6.29
80	M	tetrachloroethene	0.284	0.286	-0.7	103	0.00	6.39
81	M	1,3-dichloropropane	0.479	0.506	-5.6	107	0.00	6.44
82		2-hexanone	0.180	0.200	-11.1	110	0.00	6.46
83	M	butyl acetate	0.284	0.315	-10.9	109	0.00	6.54
84	M	dibromochloromethane	0.272	0.306	-12.5	108	0.00	6.63
85	M	1,2-dibromoethane	0.364	0.397	-9.1	111	0.00	6.74
86		n-butyl ether	1.297	1.409	-8.6	110	0.00	7.22
87	M	chlorobenzene	0.863	0.848	1.7	102	0.00	7.17
88	M	1,1,1,2-tetrachloroethane	0.283	0.291	-2.8	101	0.00	7.24
89	M	ethylbenzene	1.484	1.507	-1.5	104	0.00	7.25
90	M	m,p-xylene	0.583	0.581	0.3	103	0.00	7.36
91	M	o-xylene	0.562	0.557	0.9	103	0.00	7.72
92	M	styrene	0.942	0.964	-2.3	103	0.00	7.74
93	M	bromoform	0.202	0.231	-14.4	109	0.00	7.91
94		butyl acrylate	0.668	0.776	-16.2	110	0.00	7.64
95		n-amyl acetate	0.289	0.316	-9.3	107	0.00	7.85
96		isopropylbenzene	1.418	1.427	-0.6	102	0.00	8.05
97		cis-1,4-dichloro-2-butene	0.152	0.134	11.8	82	0.00	8.10
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	103	0.00	9.34

Continuing Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6273-CC6212
Lab FileID: 3D146705.D

99	S	4-bromofluorobenzene (s)	0.944	0.937	0.7	102	0.00	8.22
100	M	bromobenzene	0.793	0.781	1.5	102	0.00	8.37
101	M	1,1,2,2-tetrachloroethane	0.867	0.915	-5.5	105	0.00	8.33
102	M	trans-1,4-dichloro-2-bute	0.259	0.230	11.2	90	0.00	8.37
103	M	1,2,3-trichloropropane	0.300	0.295	1.7	103	0.00	8.39
104	M	n-propylbenzene	3.416	3.421	-0.1	103	0.00	8.45
105	M	2-chlorotoluene	0.711	0.703	1.1	102	0.00	8.55
106	M	4-chlorotoluene	0.712	0.693	2.7	100	0.00	8.66
107	M	1,3,5-trimethylbenzene	2.410	2.369	1.7	101	0.00	8.62
108	M	tert-butylbenzene	0.537	0.517	3.7	101	0.00	8.92
109	M	1,2,4-trimethylbenzene	2.377	2.377	0.0	102	0.00	8.99
110	M	sec-butylbenzene	2.814	2.809	0.2	101	0.00	9.14
111	M	1,3-dichlorobenzene	1.402	1.373	2.1	103	0.00	9.27
112	M	p-isopropyltoluene	2.453	2.408	1.8	101	0.00	9.29
113	M	1,4-dichlorobenzene	1.423	1.399	1.7	103	0.00	9.36
114		benzyl chloride	1.659	1.687	-1.7	97	0.00	9.47
115	M	1,2-dichlorobenzene	1.339	1.298	3.1	103	0.00	9.72
116	M	n-butylbenzene	1.084	1.118	-3.1	103	0.00	9.69
117	M	1,2-dibromo-3-chloropropa	0.178	0.178	0.0	96	0.00	10.48
118		1,3,5-trichlorobenzene	0.946	0.929	1.8	101	0.00	10.68
119		2-ethylhexyl acrylate	0.457	0.343	24.9#	75	0.00	11.48
120	M	1,2,4-trichlorobenzene	0.819	0.816	0.4	100	0.00	11.30
121	M	hexachlorobutadiene	0.323	0.304	5.9	95	0.00	11.45
122	M	naphthalene	2.601	2.435	6.4	95	0.00	11.56
123	M	1,2,3-trichlorobenzene	0.750	0.740	1.3	96	0.00	11.79
124	m	hexachloroethane	0.345	0.372	-7.8	104	0.00	9.99
125		2-methylnaphthalene	1.069	0.852	20.3#	76	0.00	12.70
126		Bis(chloromethyl)ether		----------NA----------				
127		Ethylenimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D145277.D M3D6212.M Fri Apr 19 02:38:11 2019

Continuing Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6274-CC6212
Lab FileID: 3D146735.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ke...19\v3d6274\3d146735.d Vial: 2
Acq On : 18 Apr 2019 7:26 am Operator: JessicaP
Sample : CC6212-20 Inst : MS3D
Misc : MS34039,V3D6274,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
Last Update : Fri Mar 08 17:11:15 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1		tert butyl alcohol-d9	1.000	1.000	0.0	98	0.00	2.98
2	M	tertiary butyl alcohol	1.294	1.256	2.9	98	0.00	3.04
3		ethanol	0.120	0.136	-13.3	115	0.00	2.42
4	M	1,4-dioxane	0.117	0.121	-3.4	99	0.00	5.18
5	I	pentafluorobenzene	1.000	1.000	0.0	101	0.00	4.19
6	M	chlorodifluoromethane	0.455	0.445	2.2	99	0.00	1.61
7	M	dichlorodifluoromethane	0.504	0.544	-7.9	103	0.00	1.60
8	M	chloromethane	0.469	0.477	-1.7	104	0.00	1.75
9	M	vinyl chloride	0.475	0.525	-10.5	107	0.00	1.83
10		1,3-butadiene	0.393	0.417	-6.1	108	0.00	1.86
11	M	bromomethane	0.178	0.124	30.3#	67	0.00	2.08
12	M	chloroethane	0.294	0.310	-5.4	107	0.00	2.16
13	M	trichlorofluoromethane	0.597	0.582	2.5	96	0.00	2.33
14		vinyl bromide	0.277	0.250	9.7	89	0.00	2.29
15	M	ethyl ether	0.221	0.254	-14.9	116	0.00	2.51
16	M	acrolein	0.087	0.100	-14.9	118	0.00	2.61
17		freon 113	0.327	0.275	15.9	84	0.00	2.69
18	M	1,1-dichloroethene	0.332	0.352	-6.0	102	0.00	2.69
19	M	acetone	0.050	0.056	-12.0	116	0.00	2.69
20	M	acetonitrile	0.076	0.086	-13.2	119	0.00	2.88
21	M	iodomethane	0.137	0.065	52.6#	64	0.00	2.80
22	M	carbon disulfide	0.904	0.928	-2.7	107	0.00	2.86
23	M	methylene chloride	0.372	0.375	-0.8	109	0.00	3.01
24	M	methyl acetate	0.413	0.445	-7.7	112	0.00	2.89
25	M	methyl tert butyl ether	1.109	1.175	-6.0	106	0.00	3.18
26	M	trans-1,2-dichloroethene	0.373	0.389	-4.3	107	0.00	3.19
27	M	di-isopropyl ether	1.249	1.397	-11.8	113	0.00	3.48
28	M	2-butanone	0.068	0.075	-10.3	111	0.00	3.83
29	M	1,1-dichloroethane	0.627	0.691	-10.2	110	0.00	3.49
30	M	chloroprene	0.598	0.625	-4.5	104	0.00	3.54
31	M	acrylonitrile	0.192	0.219	-14.1	115	0.00	3.15
32		hexane	0.314	0.289	8.0	95	0.00	3.37
33	M	vinyl acetate	0.107	0.108	-0.9	98	0.00	3.46
34	M	ethyl tert-butyl ether	1.187	1.268	-6.8	107	0.00	3.72
35	M	ethyl acetate	0.084	0.090	-7.1	112	0.00	3.85
36	M	2,2-dichloropropane	0.540	0.527	2.4	98	0.00	3.88
37	M	cis-1,2-dichloroethene	0.401	0.418	-4.2	105	0.00	3.86
38		methyl acrylate	0.079	0.081	-2.5	103	0.00	3.89
39	M	propionitrile	0.083	0.094	-13.3	115	0.00	3.88
40	M	bromochloromethane	0.178	0.188	-5.6	103	0.00	4.03
41	M	tetrahydrofuran	0.075	0.082	-9.3	109	0.00	4.04

Continuing Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6274-CC6212
Lab FileID: 3D146735.D

42	M	chloroform	0.409	0.403	1.5	104	0.00	4.08
43	M	t-butyl formate	0.341	0.276	19.1	78	0.00	4.10
44	S	dibromofluoromethane (s)	0.355	0.357	-0.6	101	0.00	4.19
45	M	methacrylonitrile	0.199	0.223	-12.1	112	0.00	3.99
46	M	1,1,1-trichloroethane	0.563	0.536	4.8	96	0.00	4.23
47		cyclohexane	0.597	0.598	-0.2	103	0.00	4.29
48		1,1-dichloropropene	0.519	0.528	-1.7	103	0.00	4.33
49		iso-butyl alcohol	0.033	0.035	-6.1	114	0.00	4.33
50		carbon tetrachloride	0.460	0.449	2.4	96	0.00	4.34
51		tert amyl alcohol	0.028	0.031	-10.7	110	0.00	4.43
52	I	1,4-difluorobenzene	1.000	1.000	0.0	100	0.00	4.75
53	S	1,2-dichloroethane-d4 (s)	0.281	0.278	1.1	102	0.00	4.44
54	M	n-butyl alcohol	0.016	0.017	-6.3	105	0.00	4.81
55		2,2,4-trimethylpentane	0.709	0.710	-0.1	103	0.00	4.55
56	M	benzene	1.077	1.143	-6.1	107	0.00	4.48
57	M	tert-amyl methyl ether	0.209	0.204	2.4	98	0.00	4.54
58	M	heptane	0.183	0.182	0.5	101	0.00	4.66
59	M	isopropyl acetate	0.089	0.090	-1.1	101	0.00	4.45
60	M	1,2-dichloroethane	0.362	0.348	3.9	101	0.00	4.50
61	M	trichloroethene	0.290	0.286	1.4	100	0.00	4.95
62		ethyl acrylate	0.442	0.487	-10.2	108	0.00	4.96
63	M	2-nitropropane	0.079	0.077	2.5	105	0.00	5.49
64	M	2-chloroethyl vinyl ether	0.181	0.200	-10.5	105	0.00	5.52
65	M	methyl methacrylate	0.352	0.348	1.1	105	0.00	5.14
66	M	1,2-dichloropropane	0.261	0.289	-10.7	112	0.00	5.14
67	M	dibromomethane	0.153	0.161	-5.2	105	0.00	5.21
68	M	methylcyclohexane	0.456	0.430	5.7	98	0.00	5.14
69	M	bromodichloromethane	0.319	0.330	-3.4	105	0.00	5.33
70		epichlorohydrin	0.043	0.047	-9.3	106	0.00	5.57
71	M	cis-1,3-dichloropropene	0.419	0.432	-3.1	104	0.00	5.67
72	M	4-methyl-2-pentanone	0.149	0.168	-12.8	112	0.00	5.77
73	M	3-methyl-1-butanol	0.023	0.024	-4.3	101	0.00	5.78
74	I	chlorobenzene-d5	1.000	1.000	0.0	100	0.00	7.14
75	S	toluene-d8 (s)	1.270	1.305	-2.8	103	0.00	5.89
76		toluene	0.811	0.832	-2.6	106	0.00	5.96
77		trans-1,3-dichloropropene	0.453	0.451	0.4	102	0.00	6.12
78		ethyl methacrylate	0.475	0.515	-8.4	106	0.00	6.14
79		1,1,2-trichloroethane	0.230	0.249	-8.3	108	0.00	6.29
80	M	tetrachloroethene	0.284	0.281	1.1	99	0.00	6.39
81	M	1,3-dichloropropane	0.479	0.515	-7.5	107	0.00	6.43
82		2-hexanone	0.180	0.204	-13.3	111	0.00	6.46
83	M	butyl acetate	0.284	0.325	-14.4	114	0.00	6.54
84	M	dibromochloromethane	0.272	0.297	-9.2	109	0.00	6.63
85	M	1,2-dibromoethane	0.364	0.404	-11.0	113	0.00	6.74
86		n-butyl ether	1.297	1.413	-8.9	109	0.00	7.22
87	M	chlorobenzene	0.863	0.857	0.7	103	0.00	7.17
88	M	1,1,1,2-tetrachloroethane	0.283	0.282	0.4	100	0.00	7.24
89	M	ethylbenzene	1.484	1.517	-2.2	103	0.00	7.25
90	M	m,p-xylene	0.583	0.587	-0.7	102	0.00	7.36
91	M	o-xylene	0.562	0.568	-1.1	103	0.00	7.72
92	M	styrene	0.942	0.963	-2.2	102	0.00	7.73
93	M	bromoform	0.202	0.219	-8.4	110	0.00	7.91
94		butyl acrylate	0.668	0.752	-12.6	107	0.00	7.64
95		n-amyl acetate	0.289	0.308	-6.6	105	0.00	7.85
96		isopropylbenzene	1.418	1.419	-0.1	100	0.00	8.05
97		cis-1,4-dichloro-2-butene	0.152	0.118	22.4#	77	0.00	8.10
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	102	0.00	9.34

Continuing Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6274-CC6212
Lab FileID: 3D146735.D

99	S	4-bromofluorobenzene (s)	0.944	0.933	1.2	100	0.00	8.22
100	M	bromobenzene	0.793	0.783	1.3	101	0.00	8.36
101	M	1,1,2,2-tetrachloroethane	0.867	0.923	-6.5	107	0.00	8.33
102	M	trans-1,4-dichloro-2-bute	0.259	0.224	13.5	89	0.00	8.37
103	M	1,2,3-trichloropropane	0.300	0.297	1.0	102	0.00	8.39
104	M	n-propylbenzene	3.416	3.429	-0.4	102	0.00	8.45
105	M	2-chlorotoluene	0.711	0.698	1.8	98	0.00	8.54
106	M	4-chlorotoluene	0.712	0.693	2.7	99	0.00	8.66
107	M	1,3,5-trimethylbenzene	2.410	2.379	1.3	100	0.00	8.62
108	M	tert-butylbenzene	0.537	0.516	3.9	97	0.00	8.92
109	M	1,2,4-trimethylbenzene	2.377	2.358	0.8	101	0.00	8.98
110	M	sec-butylbenzene	2.814	2.807	0.2	100	0.00	9.14
111	M	1,3-dichlorobenzene	1.402	1.360	3.0	100	0.00	9.27
112	M	p-isopropyltoluene	2.453	2.377	3.1	99	0.00	9.29
113	M	1,4-dichlorobenzene	1.423	1.370	3.7	100	0.00	9.36
114		benzyl chloride	1.659	1.498	9.7	90	0.00	9.47
115	M	1,2-dichlorobenzene	1.339	1.302	2.8	99	0.00	9.72
116	M	n-butylbenzene	1.084	1.080	0.4	99	0.00	9.69
117	M	1,2-dibromo-3-chloropropa	0.178	0.176	1.1	101	0.00	10.48
118		1,3,5-trichlorobenzene	0.946	0.894	5.5	98	0.00	10.67
119		2-ethylhexyl acrylate	0.457	0.257	43.8#	66	0.00	11.48
120	M	1,2,4-trichlorobenzene	0.819	0.772	5.7	95	0.00	11.30
121	M	hexachlorobutadiene	0.323	0.293	9.3	94	0.00	11.45
122	M	naphthalene	2.601	2.301	11.5	92	0.00	11.56
123	M	1,2,3-trichlorobenzene	0.750	0.689	8.1	93	0.00	11.79
124	m	hexachloroethane	0.345	0.341	1.2	103	0.00	9.99
125		2-methylnaphthalene	1.069	0.647	39.5#	66	0.00	12.70
126		Bis(chloromethyl)ether		----------NA----------				
127		Ethylenimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D145276.D M3D6212.M Thu Apr 18 21:10:05 2019

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-19-19\apr 19\v3d6273\
Data File : 3d146718.d
Acq On : 18 Apr 2019 12:13 am
Operator : JessicaP
Sample : JC86426-1
Misc : MS34042,V3D6273,5,,,,2.5
ALS Vial : 64 Sample Multiplier: 1

Quant Time: Apr 19 14:46:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

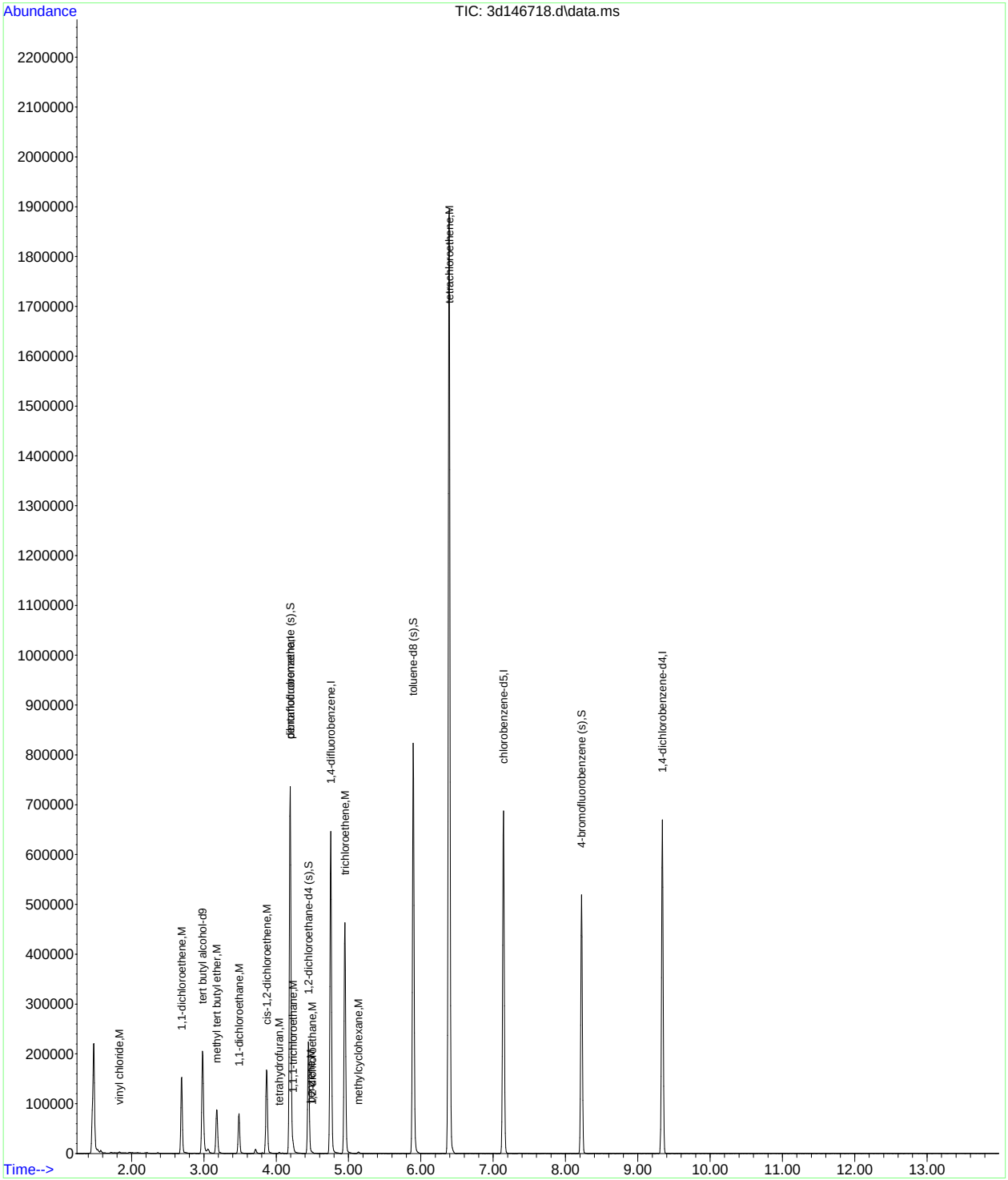
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	207296	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	326025	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	448928	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	378850	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	177892	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.194	113	114713	49.52	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.04%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	123473	48.98	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 97.96%			
75) toluene-d8 (s)	5.894	98	499334	51.89	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.78%			
99) 4-bromofluorobenzene (s)	8.223	95	166239	49.49	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.98%			
Target Compounds						Qvalue
9) vinyl chloride	1.828	62	1325	0.43	ug/L	87
18) 1,1-dichloroethene	2.694	96	49587	22.93	ug/L	98
25) methyl tert butyl ether	3.176	73	75026	10.37	ug/L	100
29) 1,1-dichloroethane	3.486	63	62866	15.38	ug/L	98
37) cis-1,2-dichloroethene	3.870	96	63367	24.22	ug/L	92
41) tetrahydrofuran	4.041	72	370	0.76	ug/L #	65
46) 1,1,1-trichloroethane	4.230	97	7936	2.16	ug/L	81
56) benzene	4.480	78	1103	0.11	ug/L	76
60) 1,2-dichloroethane	4.498	62	743	0.23	ug/L	82
61) trichloroethene	4.950	130	141123	54.23	ug/L	100
68) methylcyclohexane	5.139	83	1124	0.27	ug/L	95
80) tetrachloroethene	6.394	164	464536	215.81	ug/L	99

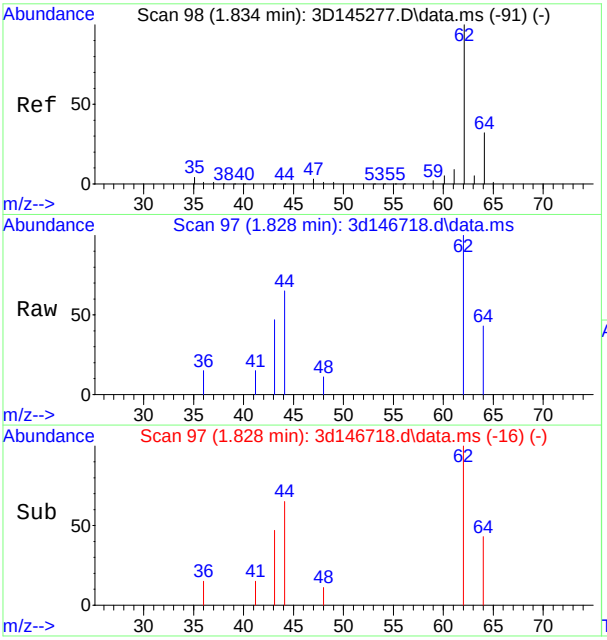
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-19-19\apr 19\v3d6273\
Data File : 3d146718.d
Acq On : 18 Apr 2019 12:13 am
Operator : JessicaP
Sample : JC86426-1
Misc : MS34042,V3D6273,5,,,,2.5
ALS Vial : 64 Sample Multiplier: 1

Quant Time: Apr 19 14:46:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

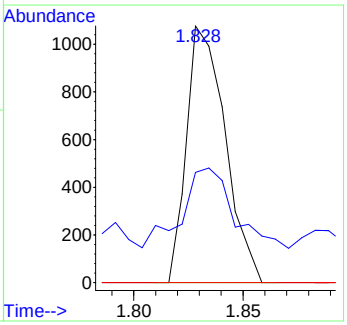


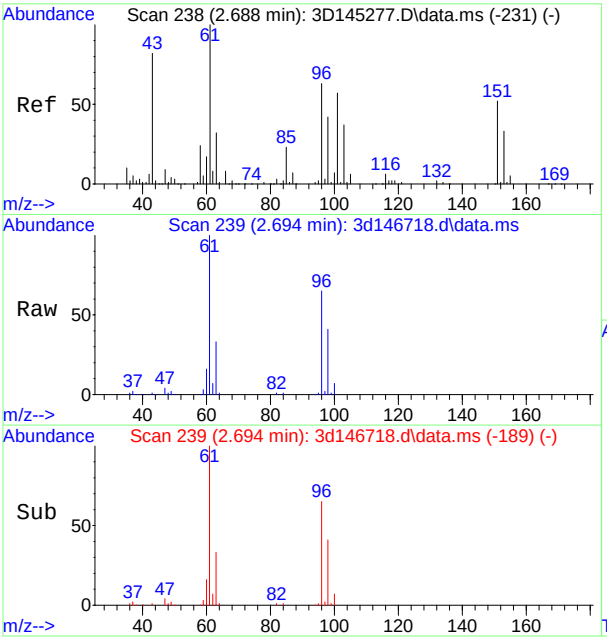


#9
vinyl chloride
Concen: 0.43 ug/L
RT: 1.828 min Scan# 97
Delta R.T. -0.006 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion: 62 Resp: 1325

Ion	Ratio	Lower	Upper
62	100		
64	26.0	1.5	61.5
61	0.0	0.0	38.8

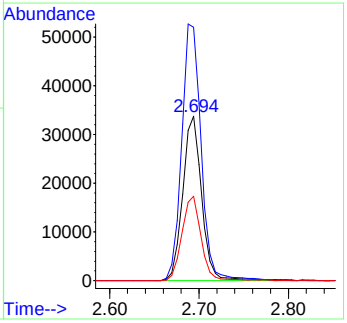


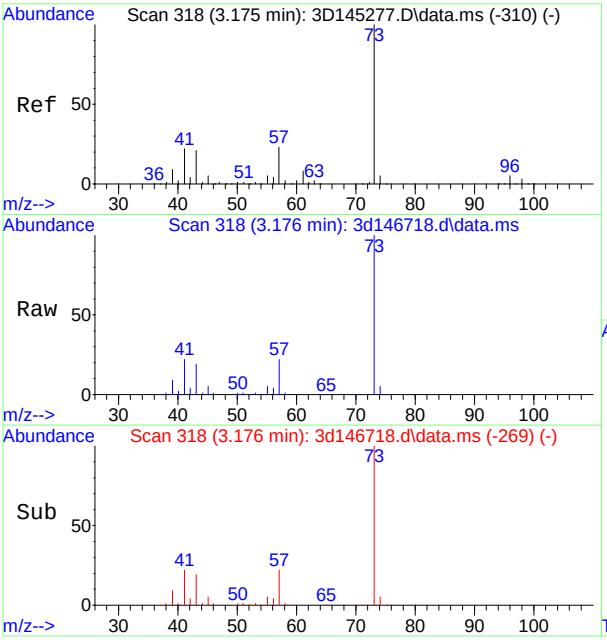


#18
1,1-dichloroethene
Concen: 22.93 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.006 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion: 96 Resp: 49587

Ion	Ratio	Lower	Upper
96	100		
61	154.0	127.6	187.6
63	51.4	21.0	81.0

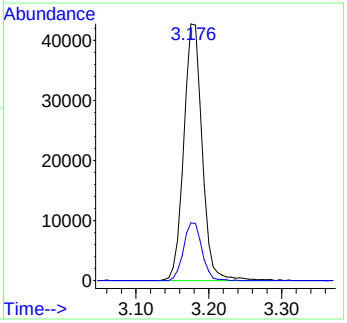


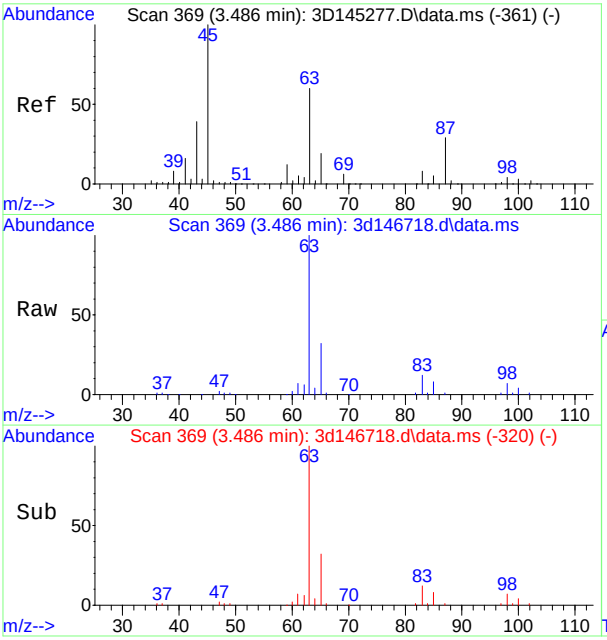


#25
methyl tert butyl ether
Concen: 10.37 ug/L
RT: 3.176 min Scan# 318
Delta R.T. 0.000 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion: 73 Resp: 75026

Ion	Ratio	Lower	Upper
73	100		
57	22.5	0.0	222.6

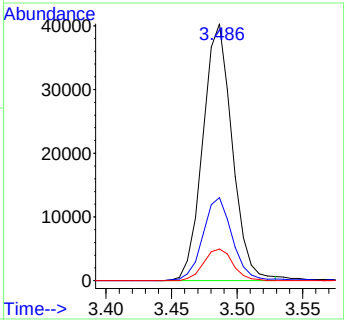


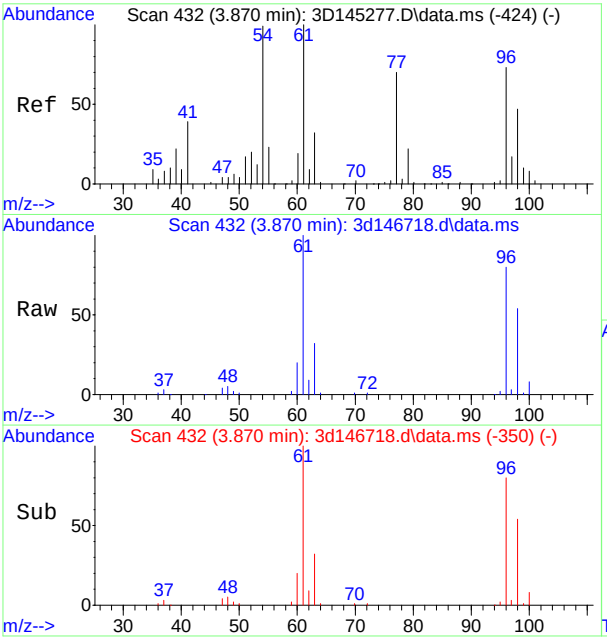


#29
1,1-dichloroethane
Concen: 15.38 ug/L
RT: 3.486 min Scan# 369
Delta R.T. 0.000 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion: 63 Resp: 62866

Ion	Ratio	Lower	Upper
63	100		
65	32.4	1.5	61.5
83	12.3	0.0	43.7

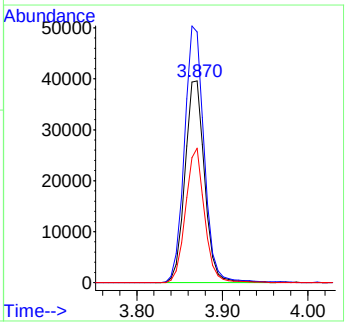


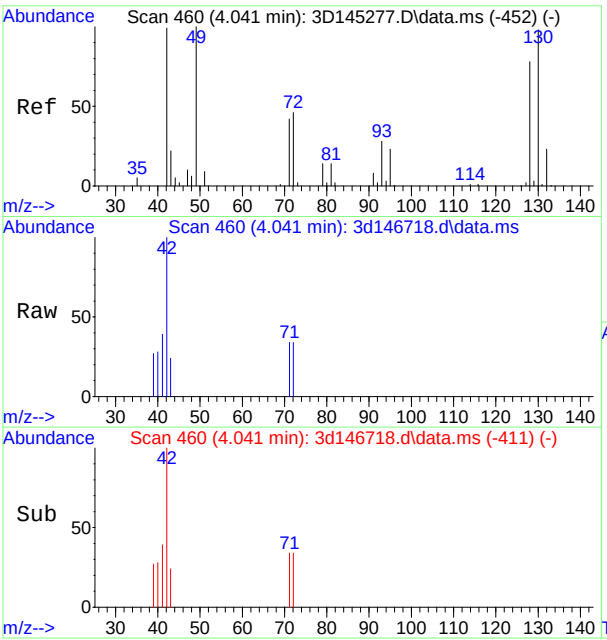


#37
cis-1,2-dichloroethene
Concen: 24.22 ug/L
RT: 3.870 min Scan# 432
Delta R.T. 0.000 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion: 96 Resp: 63367

Ion	Ratio	Lower	Upper
96	100		
61	124.2	107.5	167.5
98	66.7	35.2	95.2

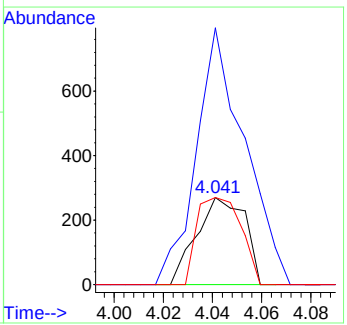


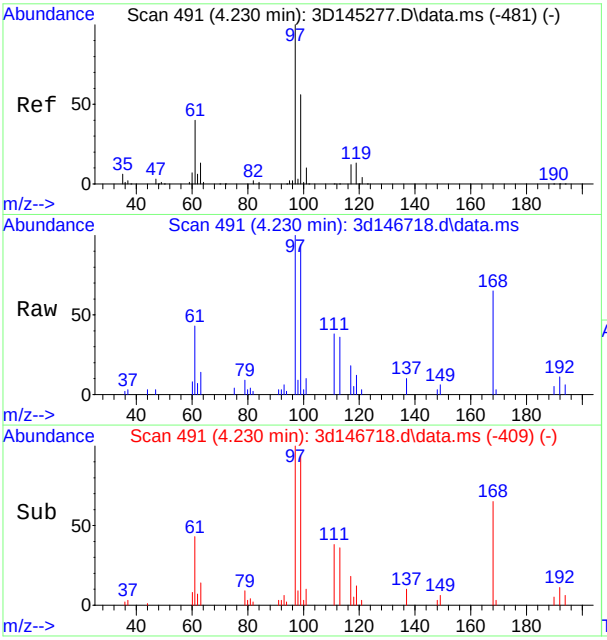


#41
tetrahydrofuran
Concen: 0.76 ug/L
RT: 4.041 min Scan# 460
Delta R.T. 0.000 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion: 72 Resp: 370

Ion	Ratio	Lower	Upper
72	100		
42	294.8	190.1	250.1#
71	100.0	61.4	121.4

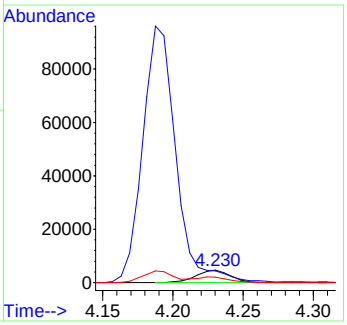


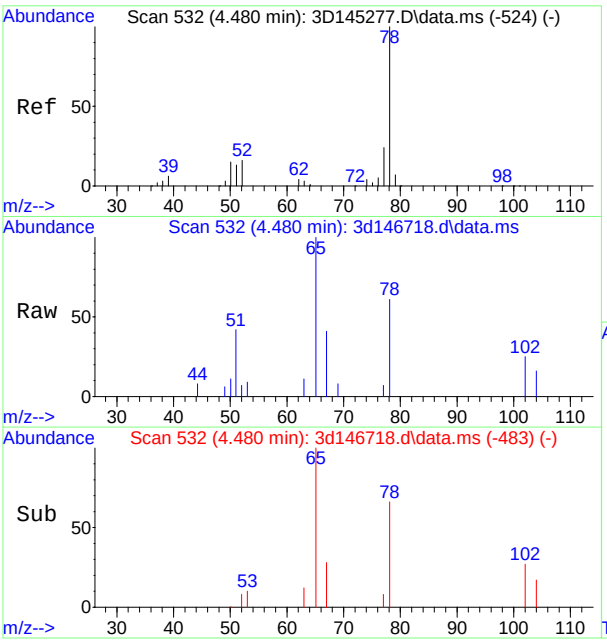


#46
1,1,1-trichloroethane
Concen: 2.16 ug/L
RT: 4.230 min Scan# 491
Delta R.T. 0.000 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion: 97 Resp: 7936

Ion	Ratio	Lower	Upper
97	100		
99	88.0	35.7	95.7
61	42.5	10.4	70.4

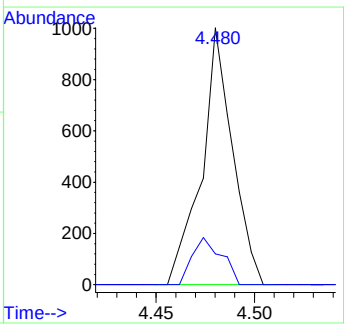


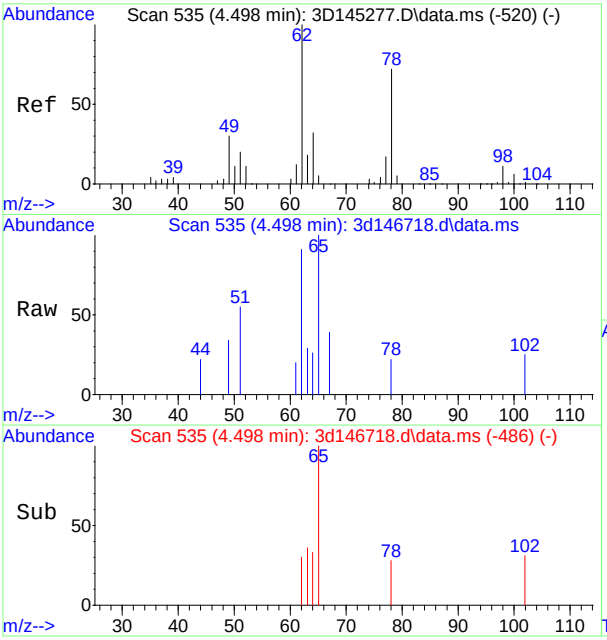


#56
benzene
Concen: 0.11 ug/L
RT: 4.480 min Scan# 532
Delta R.T. 0.000 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion: 78 Resp: 1103

Ion	Ratio	Lower	Upper
78	100		
77	12.0	0.0	53.8

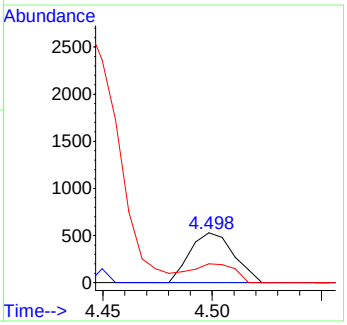


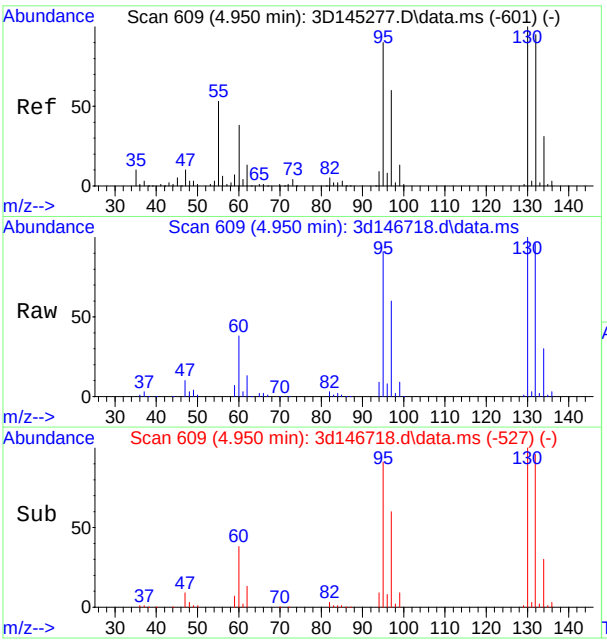


#60
1,2-dichloroethane
Concen: 0.23 ug/L
RT: 4.498 min Scan# 535
Delta R.T. 0.000 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion: 62 Resp: 743

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	40.6
49	37.8	0.0	59.7

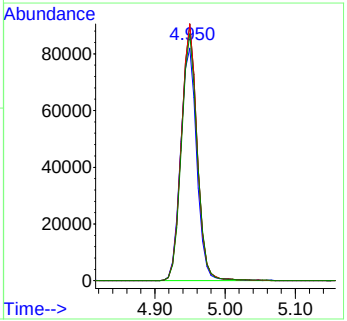


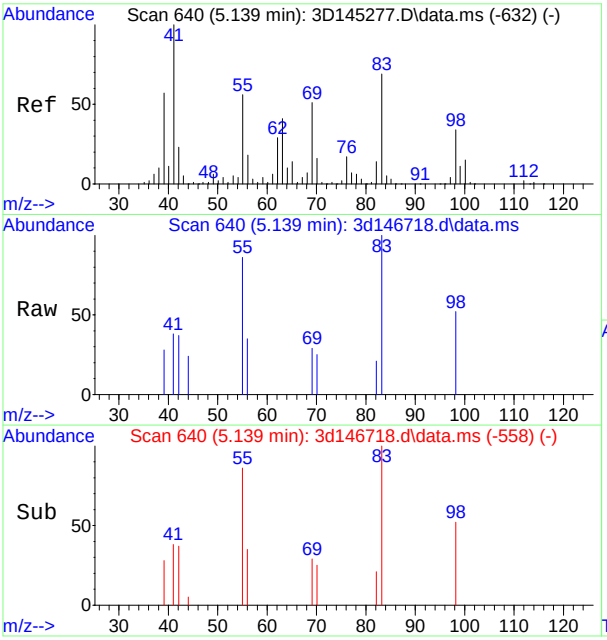


#61
trichloroethene
Concen: 54.23 ug/L
RT: 4.950 min Scan# 609
Delta R.T. 0.000 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion:130 Resp: 141123

Ion	Ratio	Lower	Upper
130	100		
95	90.6	60.4	120.4
130	100.0	70.0	130.0
132	96.1	65.3	125.3

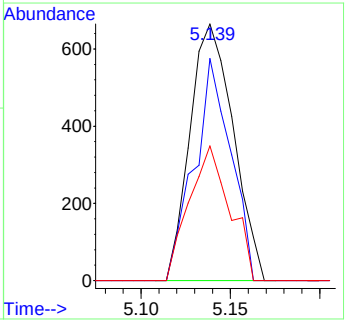


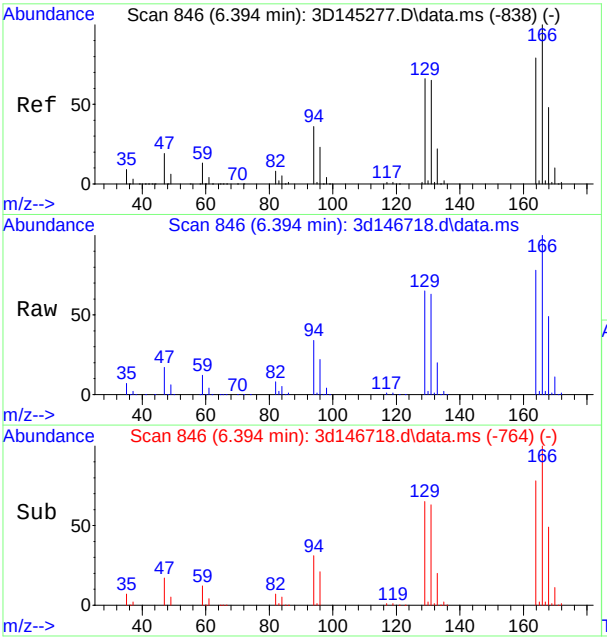


#68
methylcyclohexane
Concen: 0.27 ug/L
RT: 5.139 min Scan# 640
Delta R.T. 0.001 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion: 83 Resp: 1124

Ion	Ratio	Lower	Upper
83	100		
55	86.5	51.3	111.3
98	52.5	19.5	79.5

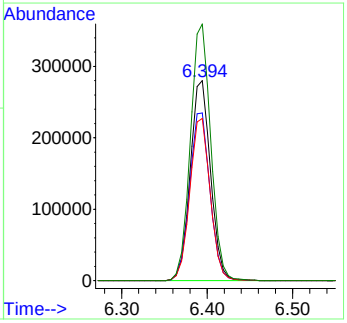




#80
tetrachloroethene
Concen: 215.81 ug/L
RT: 6.394 min Scan# 846
Delta R.T. 0.000 min
Lab File: 3d146718.d
Acq: 18 Apr 2019 12:13 am

Tgt Ion:164 Resp: 464536

Ion	Ratio	Lower	Upper
164	100		
129	83.8	54.1	114.1
131	81.1	52.5	112.5
166	128.4	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-19-19\apr 19\v3d6274\
Data File : 3d146752.d
Acq On : 18 Apr 2019 3:04 pm
Operator : JessicaP
Sample : JC86426-1
Misc : MS34042,V3D6274,5,,,,25
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 19 15:15:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

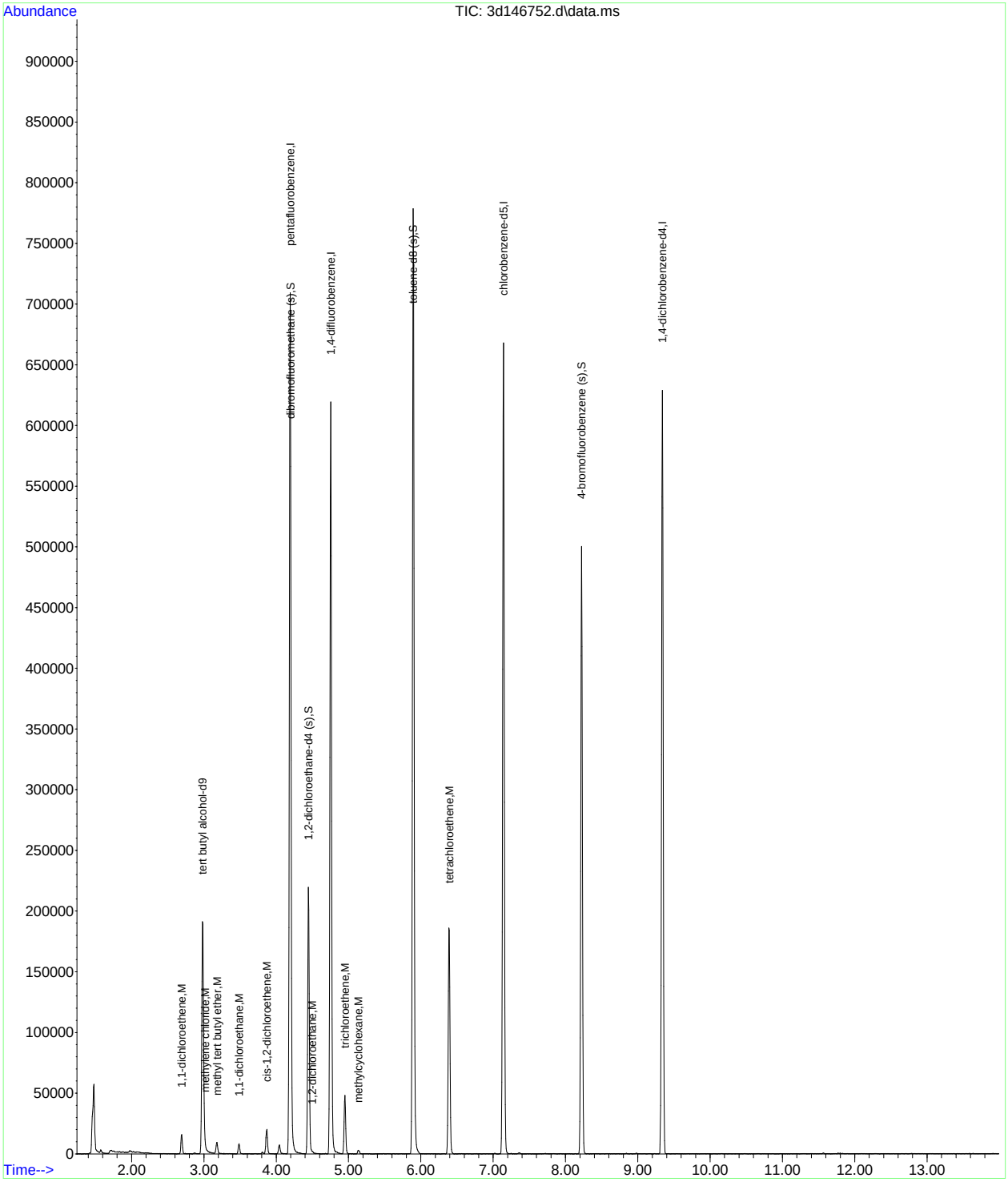
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	197355	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	311812	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	431843	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	364691	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	170214	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	109101	49.24	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.48%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	118698	48.95	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 97.90%			
75) toluene-d8 (s)	5.894	98	478918	51.70	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.40%			
99) 4-bromofluorobenzene (s)	8.223	95	159754	49.71	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.42%			
Target Compounds						Qvalue
18) 1,1-dichloroethene	2.694	96	4892	2.36	ug/L	96
23) methylene chloride	3.017	84	538	0.23	ug/L	86
25) methyl tert butyl ether	3.182	73	7477	1.08	ug/L	97
29) 1,1-dichloroethane	3.486	63	6906	1.77	ug/L	96
37) cis-1,2-dichloroethene	3.870	96	7427	2.97	ug/L	91
60) 1,2-dichloroethane	4.498	62	612	0.20	ug/L	80
61) trichloroethene	4.950	130	14322	5.72	ug/L	99
68) methylcyclohexane	5.139	83	1229	0.31	ug/L	91
80) tetrachloroethene	6.394	164	45960	22.18	ug/L	98

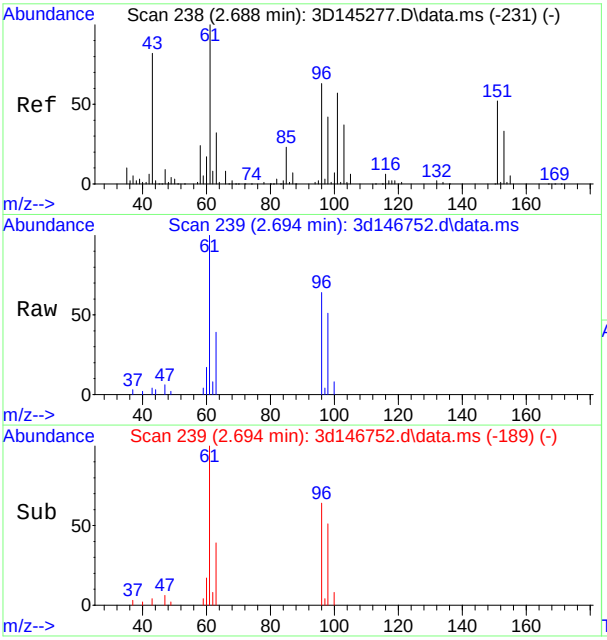
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-19-19\apr 19\v3d6274\
Data File : 3d146752.d
Acq On : 18 Apr 2019 3:04 pm
Operator : JessicaP
Sample : JC86426-1
Misc : MS34042,V3D6274,5,,,,25
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 19 15:15:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

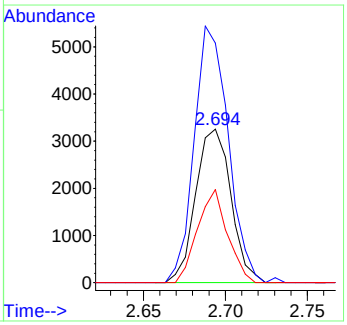


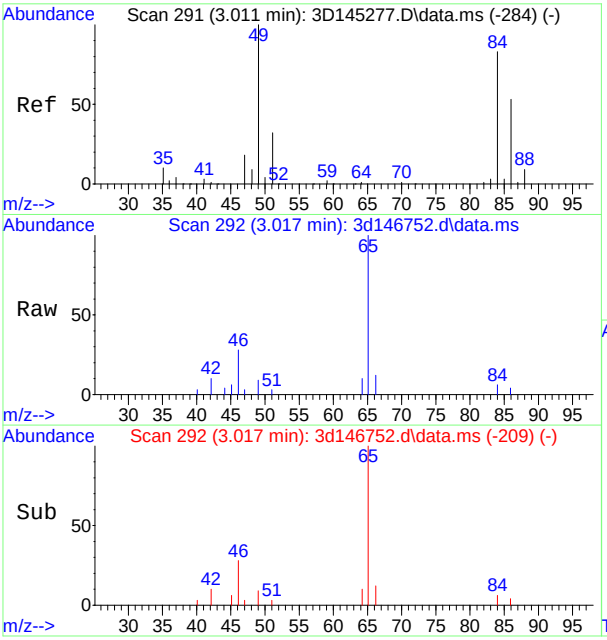


#18
1,1-dichloroethene
Concen: 2.36 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.006 min
Lab File: 3d146752.d
Acq: 18 Apr 2019 3:04 pm

Tgt Ion: 96 Resp: 4892

Ion	Ratio	Lower	Upper
96	100		
61	156.0	127.6	187.6
63	60.7	21.0	81.0

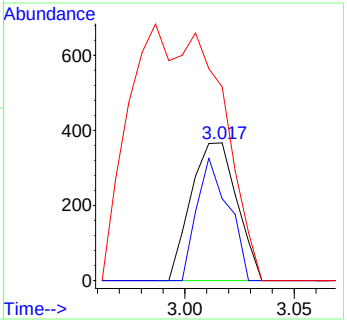


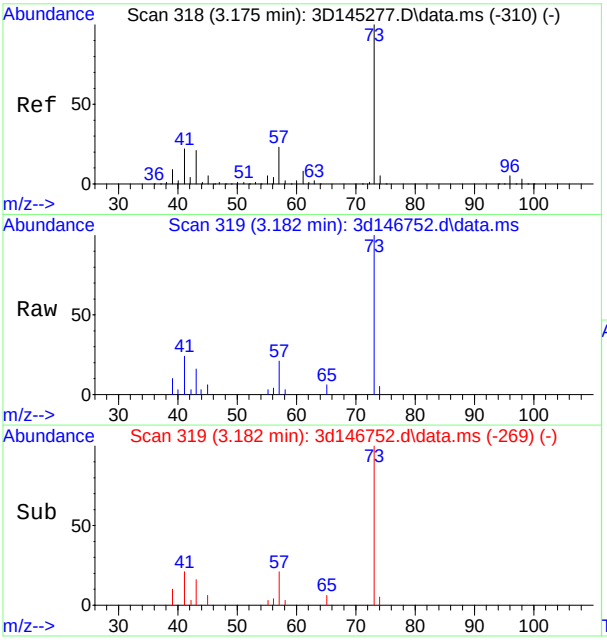


#23
methylene chloride
Concen: 0.23 ug/L
RT: 3.017 min Scan# 292
Delta R.T. 0.006 min
Lab File: 3d146752.d
Acq: 18 Apr 2019 3:04 pm

Tgt Ion: 84 Resp: 538

Ion	Ratio	Lower	Upper
84	100		
86	59.4	34.0	94.0
49	140.6	90.0	150.0

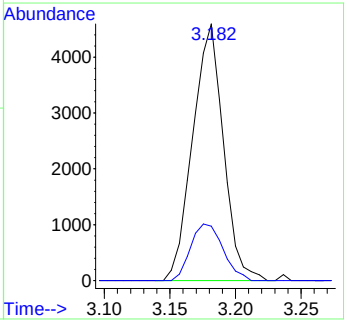


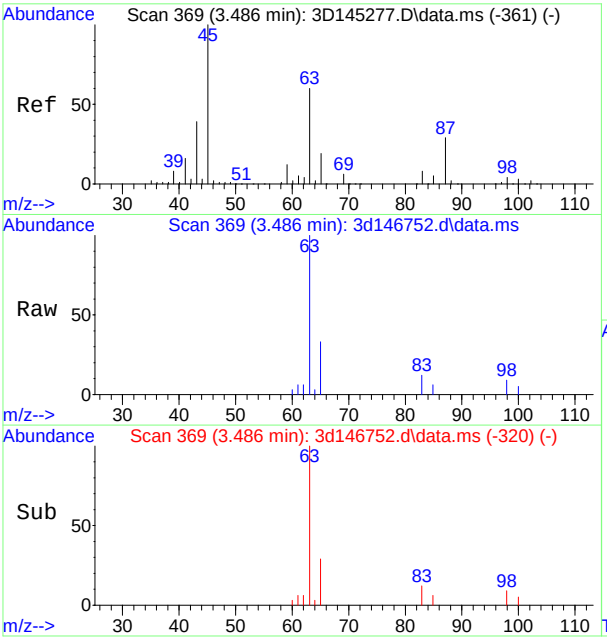


#25
methyl tert butyl ether
Concen: 1.08 ug/L
RT: 3.182 min Scan# 319
Delta R.T. 0.006 min
Lab File: 3d146752.d
Acq: 18 Apr 2019 3:04 pm

Tgt Ion: 73 Resp: 7477

Ion	Ratio	Lower	Upper
73	100		
57	21.3	0.0	222.6

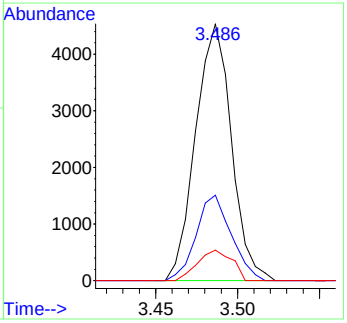


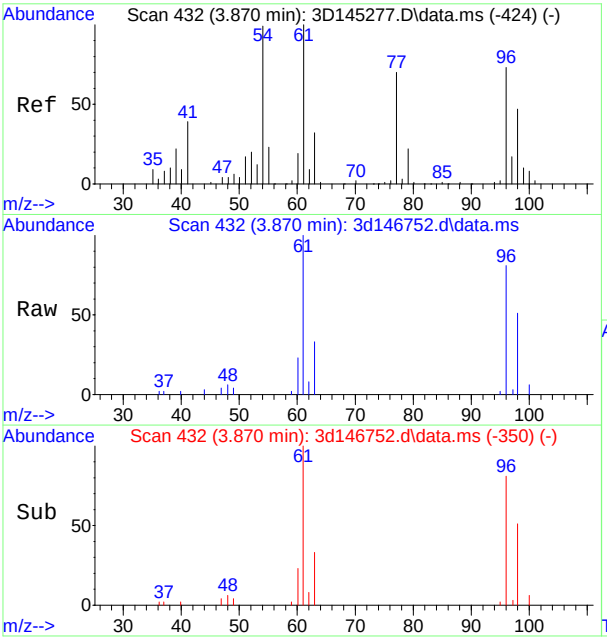


#29
1,1-dichloroethane
Concen: 1.77 ug/L
RT: 3.486 min Scan# 369
Delta R.T. 0.000 min
Lab File: 3d146752.d
Acq: 18 Apr 2019 3:04 pm

Tgt Ion: 63 Resp: 6906

Ion	Ratio	Lower	Upper
63	100		
65	33.3	1.5	61.5
83	11.9	0.0	43.7

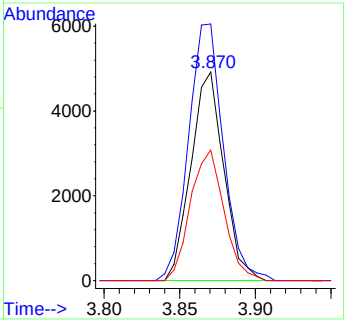


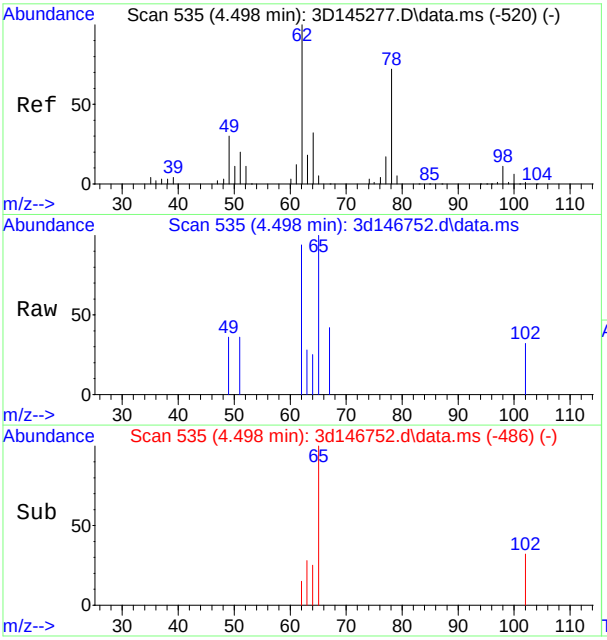


#37
cis-1,2-dichloroethene
Concen: 2.97 ug/L
RT: 3.870 min Scan# 432
Delta R.T. 0.000 min
Lab File: 3d146752.d
Acq: 18 Apr 2019 3:04 pm

Tgt Ion: 96 Resp: 7427

Ion	Ratio	Lower	Upper
96	100		
61	123.1	107.5	167.5
98	62.7	35.2	95.2

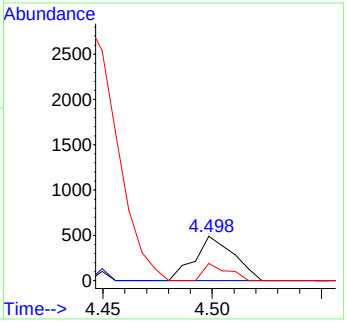


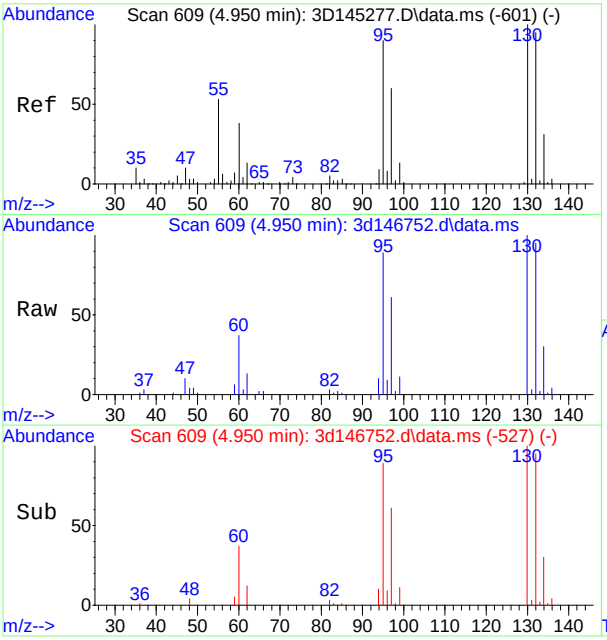


#60
1,2-dichloroethane
Concen: 0.20 ug/L
RT: 4.498 min Scan# 535
Delta R.T. 0.000 min
Lab File: 3d146752.d
Acq: 18 Apr 2019 3:04 pm

Tgt Ion: 62 Resp: 612

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	40.6
49	38.7	0.0	59.7

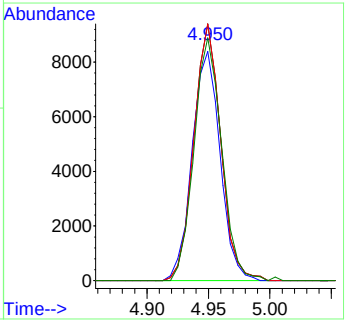


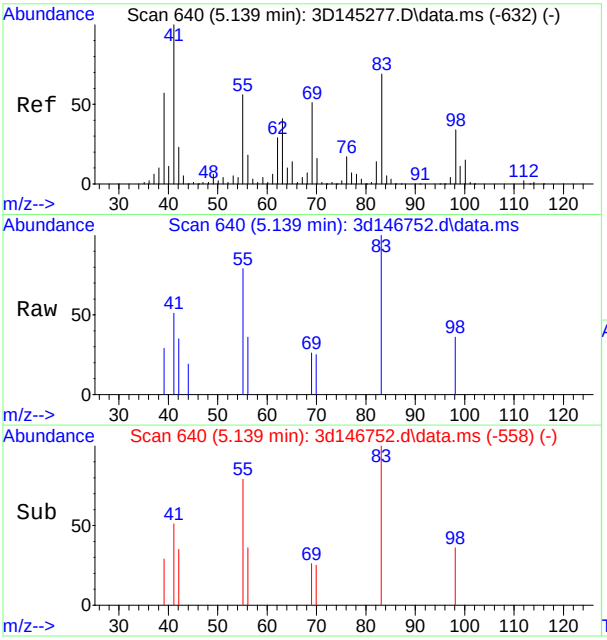


#61
trichloroethene
Concen: 5.72 ug/L
RT: 4.950 min Scan# 609
Delta R.T. 0.000 min
Lab File: 3d146752.d
Acq: 18 Apr 2019 3:04 pm

Tgt Ion:130 Resp: 14322

Ion	Ratio	Lower	Upper
130	100		
95	89.3	60.4	120.4
130	100.0	70.0	130.0
132	94.6	65.3	125.3

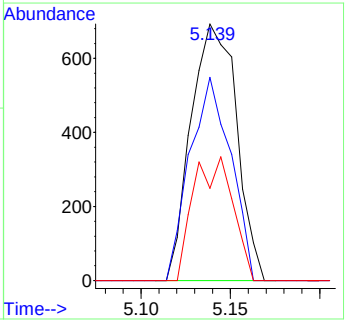


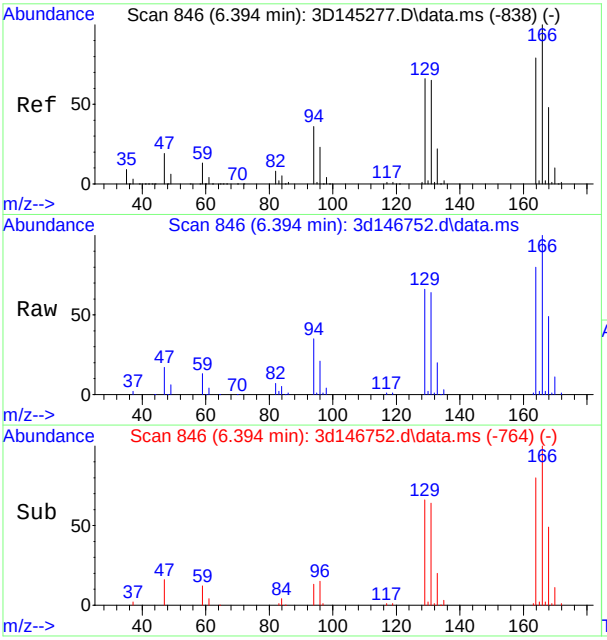


#68
methylcyclohexane
Concen: 0.31 ug/L
RT: 5.139 min Scan# 640
Delta R.T. 0.001 min
Lab File: 3d146752.d
Acq: 18 Apr 2019 3:04 pm

Tgt Ion: 83 Resp: 1229

Ion	Ratio	Lower	Upper
83	100		
55	79.2	51.3	111.3
98	35.9	19.5	79.5

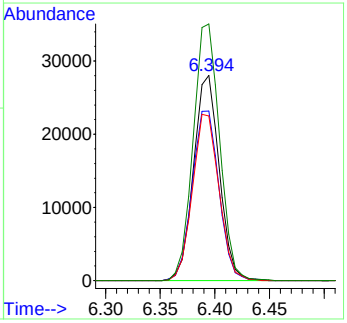




#80
tetrachloroethene
Concen: 22.18 ug/L
RT: 6.394 min Scan# 846
Delta R.T. 0.000 min
Lab File: 3d146752.d
Acq: 18 Apr 2019 3:04 pm

Tgt Ion:164 Resp: 45960

Ion	Ratio	Lower	Upper
164	100		
129	82.6	54.1	114.1
131	80.2	52.5	112.5
166	125.1	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146719.d
Acq On : 18 Apr 2019 12:38 am
Operator : JessicaP
Sample : JC86426-2 Inst : MS3D
Misc : MS34042,V3D6273,5,,,,1
ALS Vial : 65 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 19 02:06:42 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

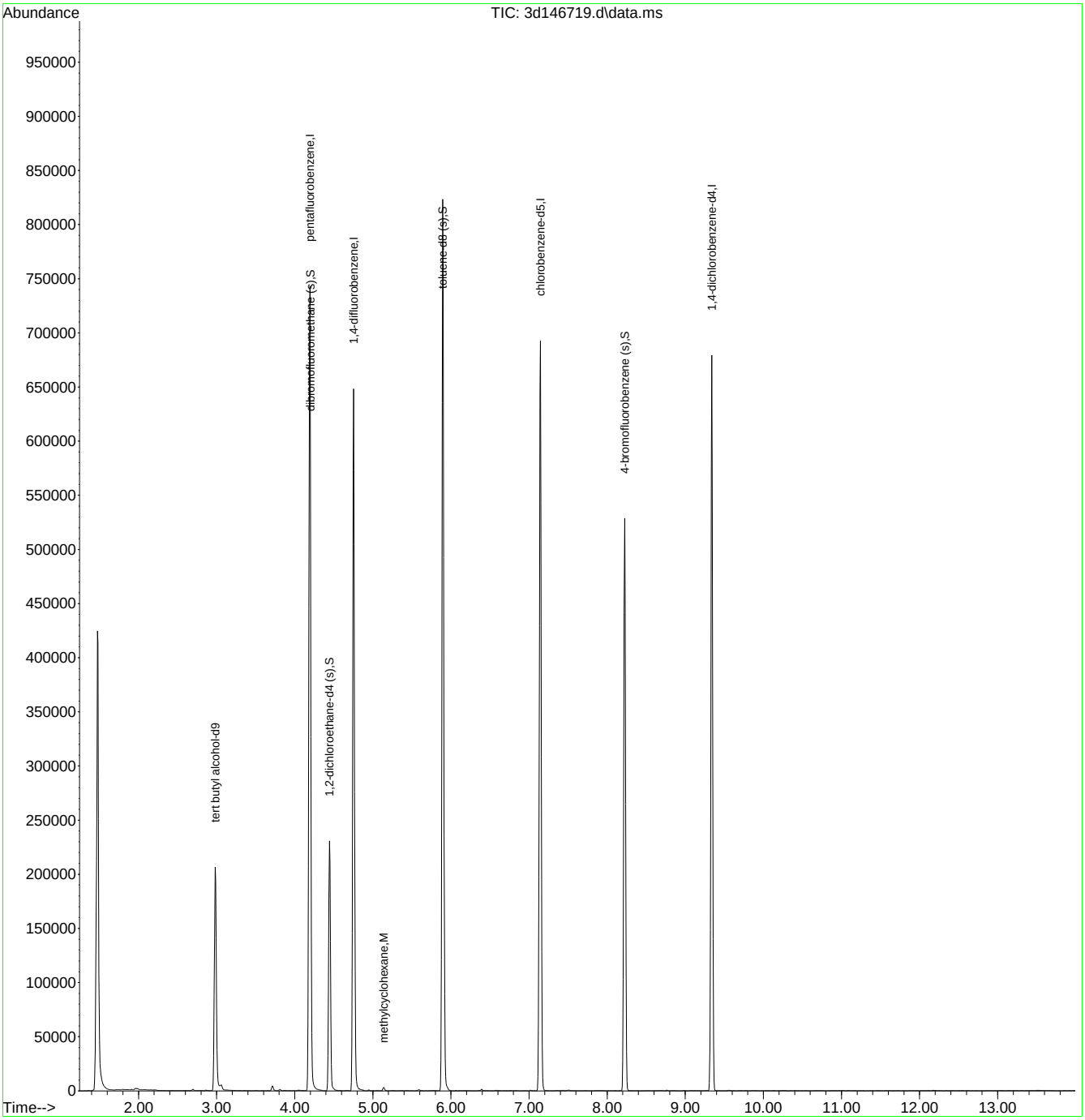
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	208369	500.00	ug/L	0.00
5) pentafluorobenzene	4.193	168	327781	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	454378	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	384149	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	179829	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.199	113	116427	49.99	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.98%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	125827	49.32	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 98.64%			
75) toluene-d8 (s)	5.894	98	502796	51.53	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.06%			
99) 4-bromofluorobenzene (s)	8.223	95	169500	49.92	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.84%			
Target Compounds						Qvalue
68) methylcyclohexane	5.138	83	1201	0.29	ug/L	84

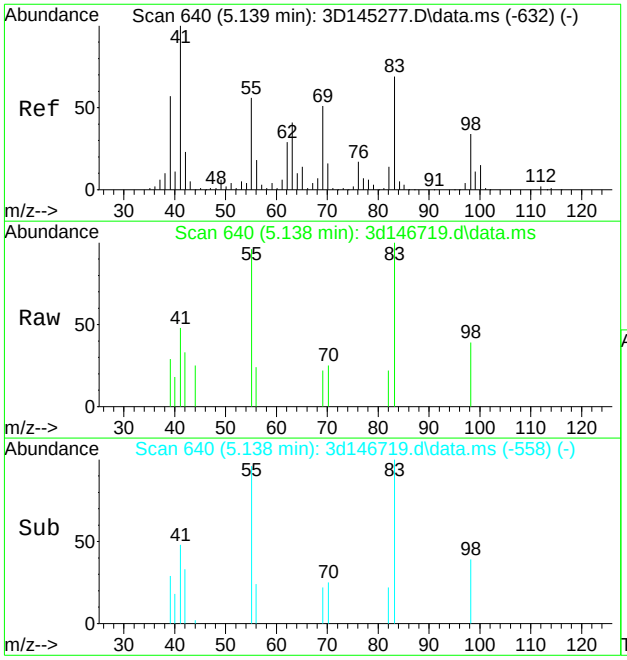
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146719.d
Acq On : 18 Apr 2019 12:38 am
Operator : JessicaP
Sample : JC86426-2 Inst : MS3D
Misc : MS34042,V3D6273,5,,,,1
ALS Vial : 65 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 19 02:06:42 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

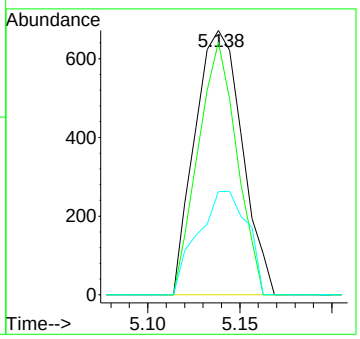




#68
methylcyclohexane
Concen: 0.29 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3d146719.d
Acq: 18 Apr 2019 12:38 am

Tgt Ion: 83 Resp: 1201

Ion	Ratio	Lower	Upper
83	100		
55	95.5	51.3	111.3
98	39.0	19.5	79.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146720.d
Acq On : 18 Apr 2019 1:03 am
Operator : JessicaP
Sample : JC86426-3 Inst : MS3D
Misc : MS34042,V3D6273,5,,,,1
ALS Vial : 66 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 19 02:07:53 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

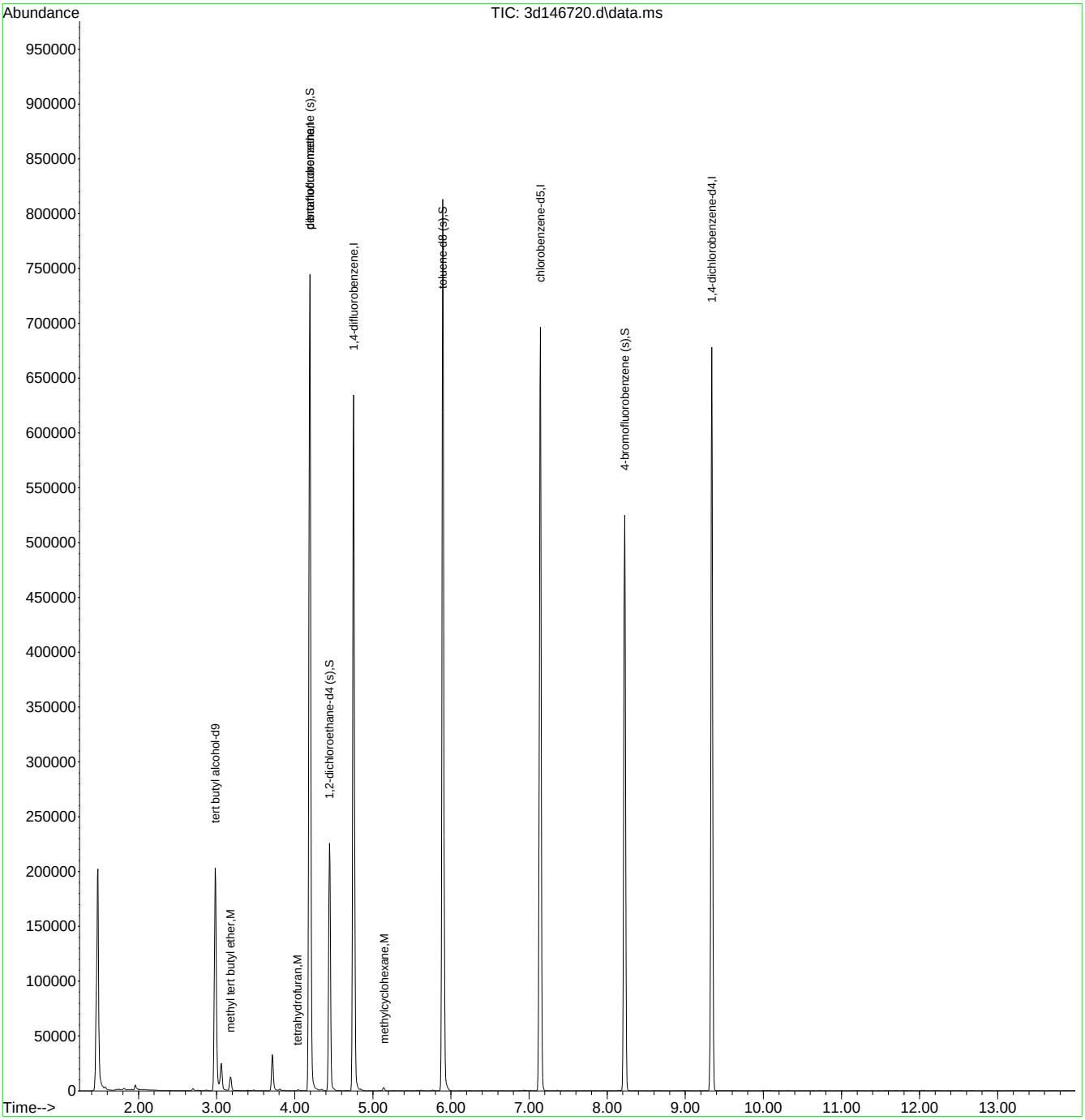
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	203733	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	324683	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	446717	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	382607	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	180347	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.194	113	115313	49.98	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.96%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	123775	49.34	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 98.68%			
75) toluene-d8 (s)	5.894	98	495271	50.96	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.92%			
99) 4-bromofluorobenzene (s)	8.223	95	167836	49.29	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.58%			
Target Compounds						Qvalue
25) methyl tert butyl ether	3.175	73	10200	1.42	ug/L	97
41) tetrahydrofuran	4.035	72	178	0.37	ug/L #	70
68) methylcyclohexane	5.145	83	1139	0.28	ug/L	71

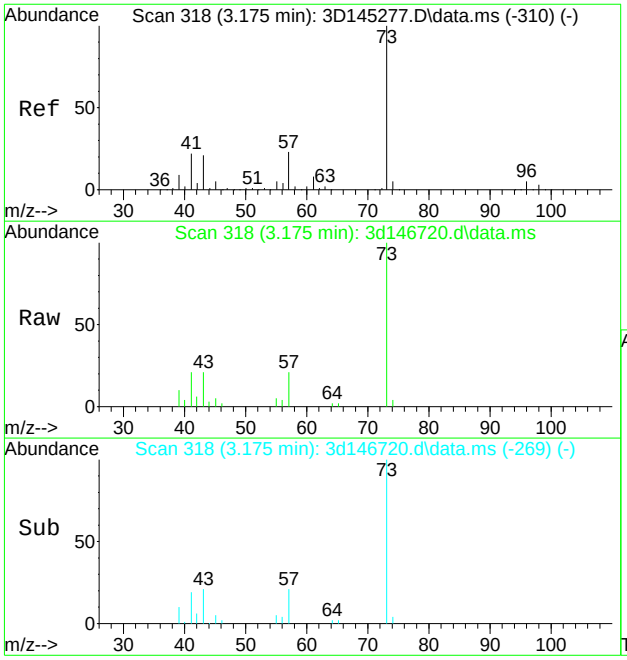
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146720.d
Acq On : 18 Apr 2019 1:03 am
Operator : JessicaP
Sample : JC86426-3 Inst : MS3D
Misc : MS34042,V3D6273,5,,,,1
ALS Vial : 66 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 19 02:07:53 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

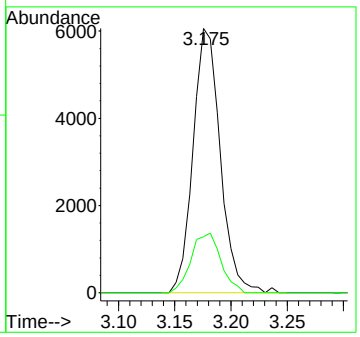


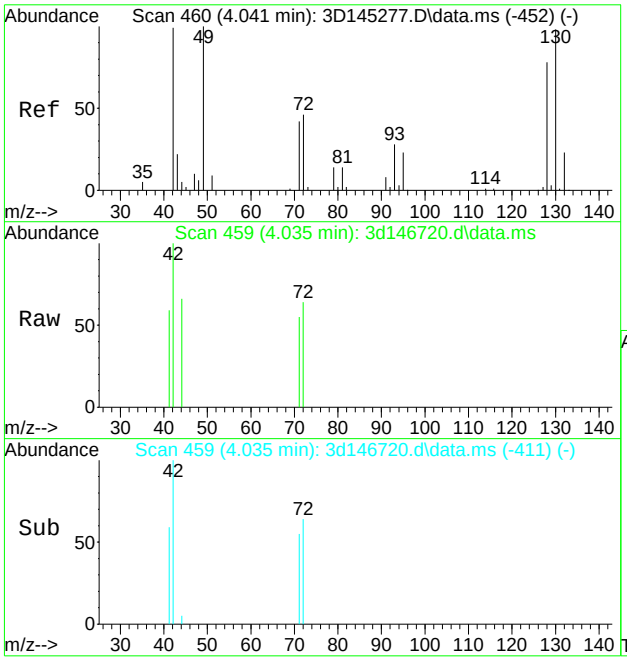


#25
methyl tert butyl ether
Concen: 1.42 ug/L
RT: 3.175 min Scan# 318
Delta R.T. -0.000 min
Lab File: 3d146720.d
Acq: 18 Apr 2019 1:03 am

Tgt Ion: 73 Resp: 10200

Ion	Ratio	Lower	Upper
73	100		
57	21.2	0.0	222.6

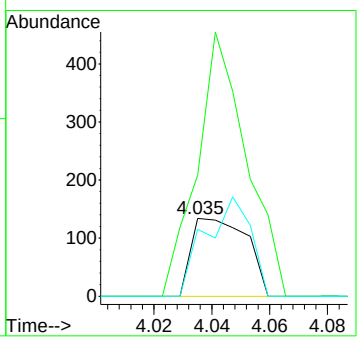


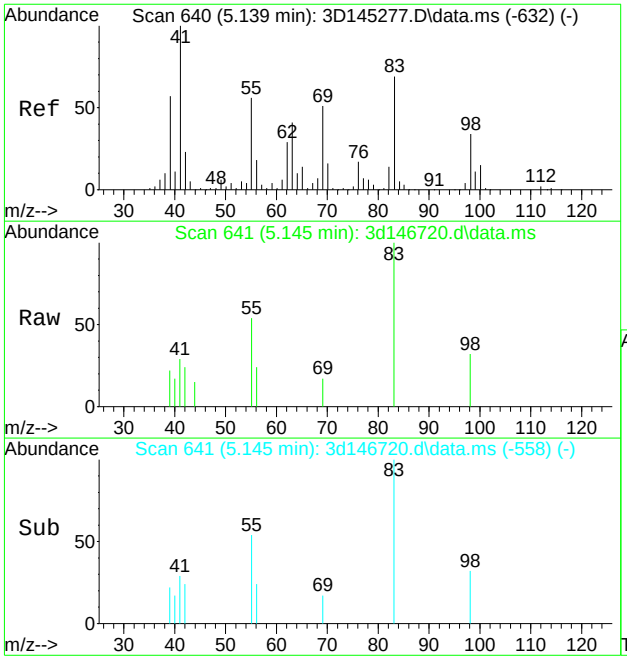


#41
tetrahydrofuran
Concen: 0.37 ug/L
RT: 4.035 min Scan# 459
Delta R.T. -0.006 min
Lab File: 3d146720.d
Acq: 18 Apr 2019 1:03 am

Tgt Ion: 72 Resp: 178

Ion	Ratio	Lower	Upper
72	100		
42	155.2	190.1	250.1#
71	85.8	61.4	121.4

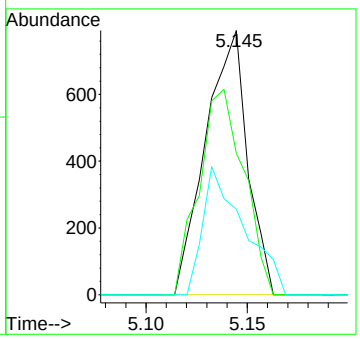




#68
methylcyclohexane
Concen: 0.28 ug/L
RT: 5.145 min Scan# 641
Delta R.T. 0.007 min
Lab File: 3d146720.d
Acq: 18 Apr 2019 1:03 am

Tgt Ion: 83 Resp: 1139

Ion	Ratio	Lower	Upper
83	100		
55	53.5	51.3	111.3
98	32.4	19.5	79.5



Quantitation Report (QT Reviewed)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-19-19\apr 19\v3d6273\
Data File : 3d146721.d
Acq On : 18 Apr 2019 1:29 am
Operator : JessicaP
Sample : JC86426-4
Misc : MS34042,V3D6273,5,,,,1
ALS Vial : 67 Sample Multiplier: 1

Quant Time: Apr 19 14:54:14 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

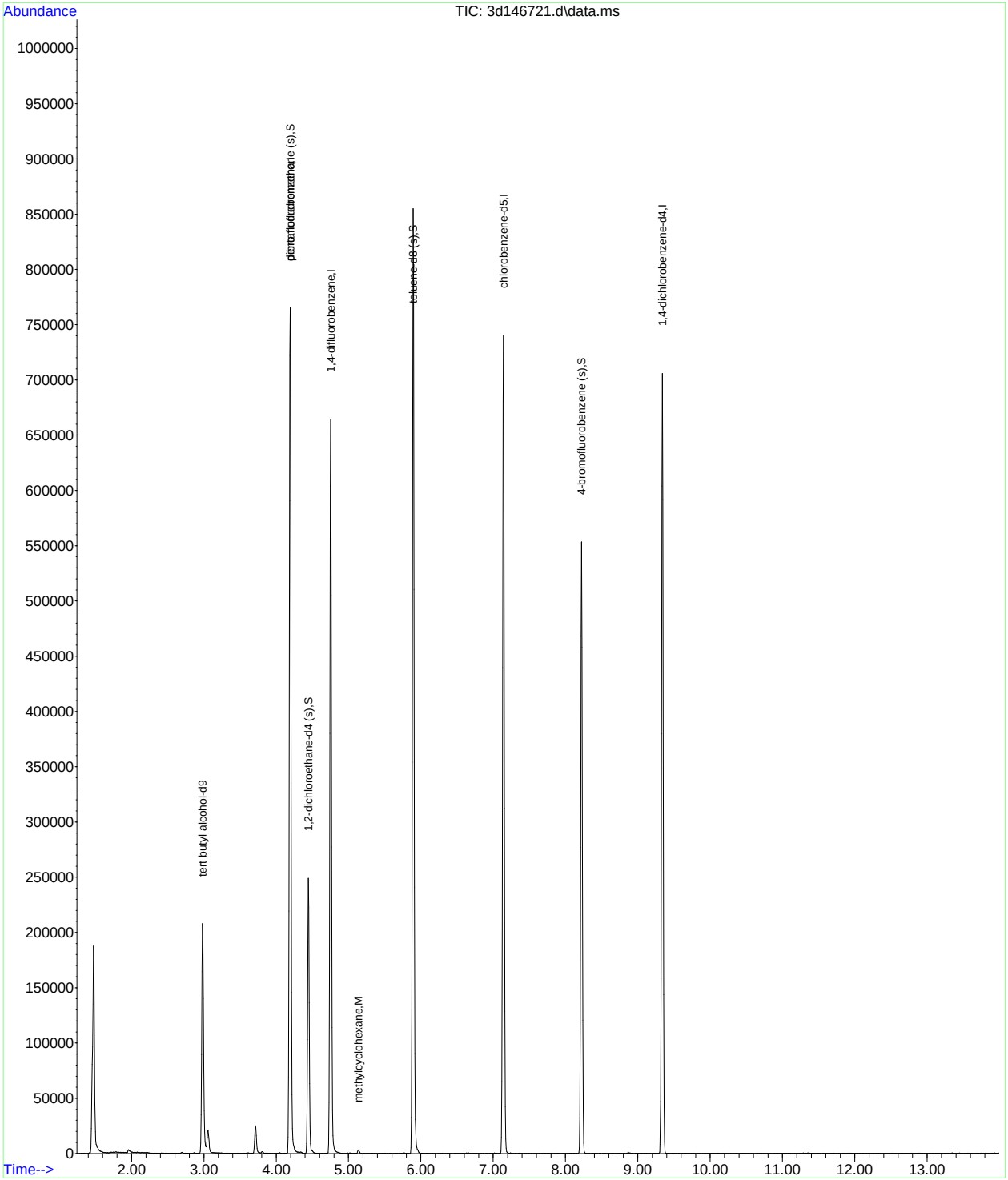
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	213851	500.00	ug/L	0.00
5) pentafluorobenzene	4.193	168	338672	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	470397	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	402209	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	192196	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.193	113	121591	50.52	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.04%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	133283	50.46	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 100.92%			
75) toluene-d8 (s)	5.894	98	522441	51.14	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.28%			
99) 4-bromofluorobenzene (s)	8.223	95	178241	49.12	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.24%			
Target Compounds						Qvalue
68) methylcyclohexane	5.138	83	1215	0.28	ug/L	93

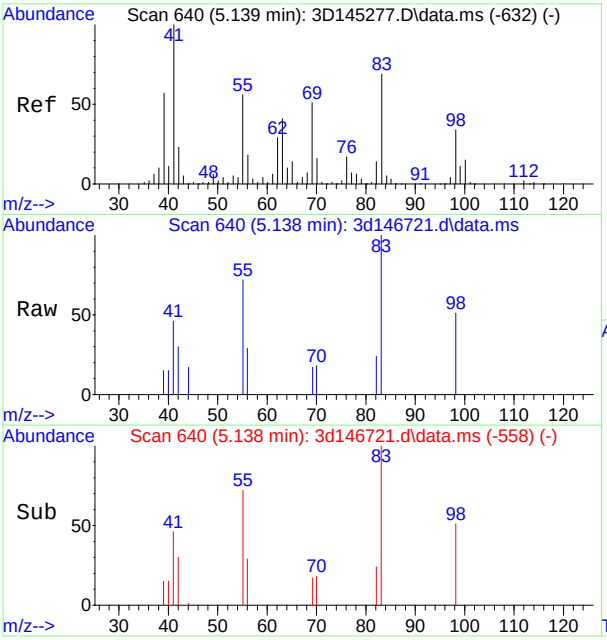
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-19-19\apr 19\v3d6273\
Data File : 3d146721.d
Acq On : 18 Apr 2019 1:29 am
Operator : JessicaP
Sample : JC86426-4
Misc : MS34042,V3D6273,5,,,,1
ALS Vial : 67 Sample Multiplier: 1

Quant Time: Apr 19 14:54:14 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

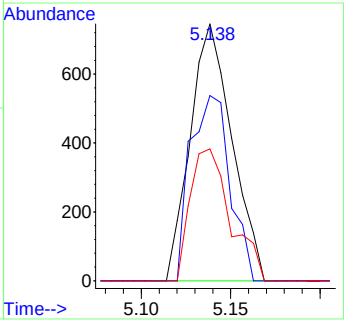




#68
methylcyclohexane
Concen: 0.28 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3d146721.d
Acq: 18 Apr 2019 1:29 am

Tgt Ion: 83 Resp: 1215

Ion	Ratio	Lower	Upper
83	100		
55	72.1	51.3	111.3
98	51.3	19.5	79.5



Quantitation Report (QT Reviewed)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-19-19\apr 19\v3d6273\
Data File : 3d146722.d
Acq On : 18 Apr 2019 1:54 am
Operator : JessicaP
Sample : JC86426-5
Misc : MS34042,V3D6273,5,,,,1
ALS Vial : 68 Sample Multiplier: 1

Quant Time: Apr 19 14:56:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

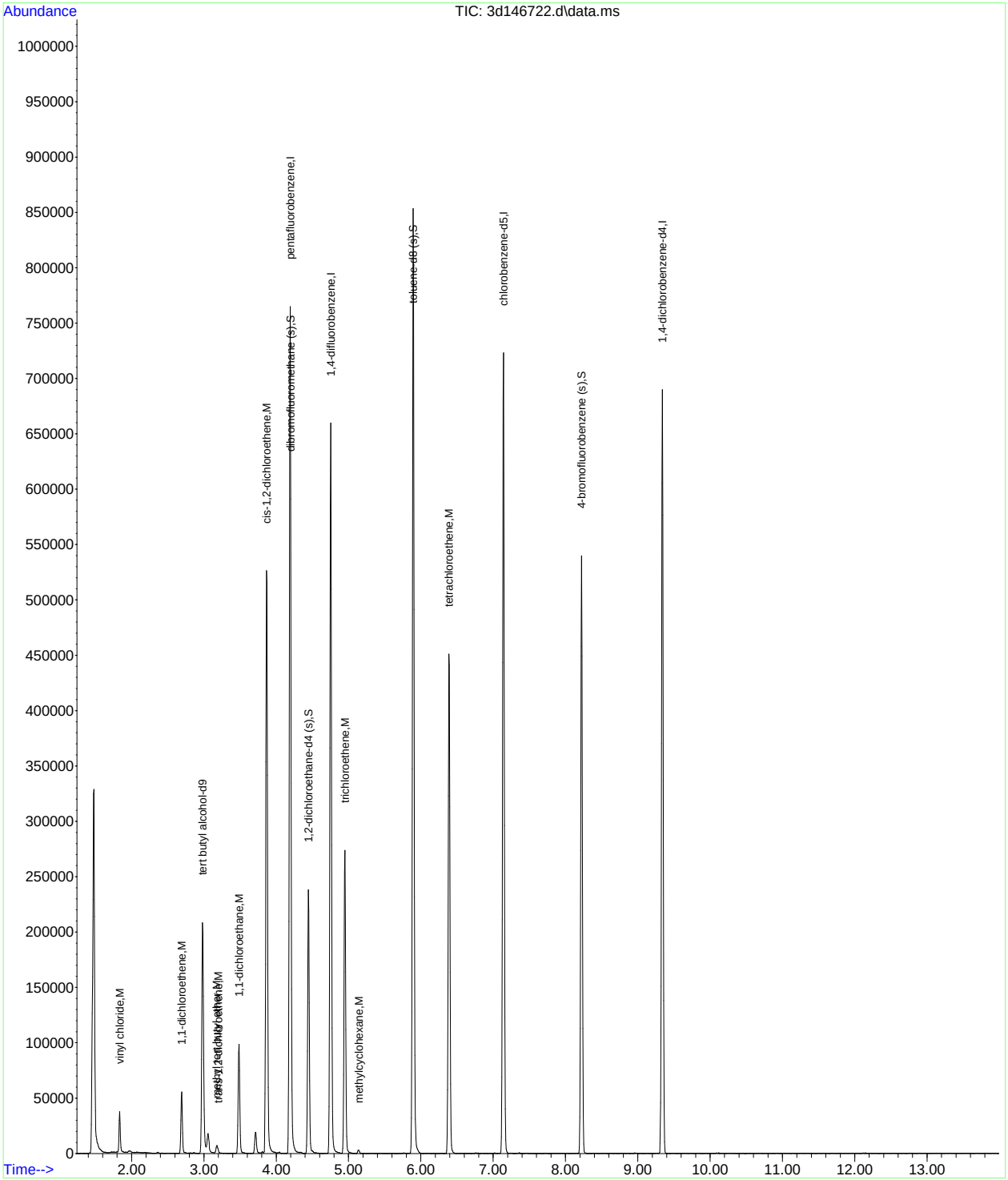
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	210315	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	332326	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	465405	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	396328	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	186942	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	119871	50.76	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.52%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	127927	48.95	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 97.90%			
75) toluene-d8 (s)	5.894	98	513203	50.98	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.96%			
99) 4-bromofluorobenzene (s)	8.223	95	174338	49.39	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.78%			
Target Compounds						Qvalue
9) vinyl chloride	1.834	62	28485	9.02	ug/L	98
18) 1,1-dichloroethene	2.694	96	17024	7.72	ug/L	97
25) methyl tert butyl ether	3.175	73	5419	0.73	ug/L	98
26) trans-1,2-dichloroethene	3.200	96	636	0.26	ug/L #	72
29) 1,1-dichloroethane	3.486	63	78173	18.76	ug/L	98
37) cis-1,2-dichloroethene	3.864	96	195917	73.47	ug/L	96
61) trichloroethene	4.949	130	83884	31.09	ug/L	98
68) methylcyclohexane	5.145	83	1194	0.28	ug/L	94
80) tetrachloroethene	6.388	164	108579	48.22	ug/L	99

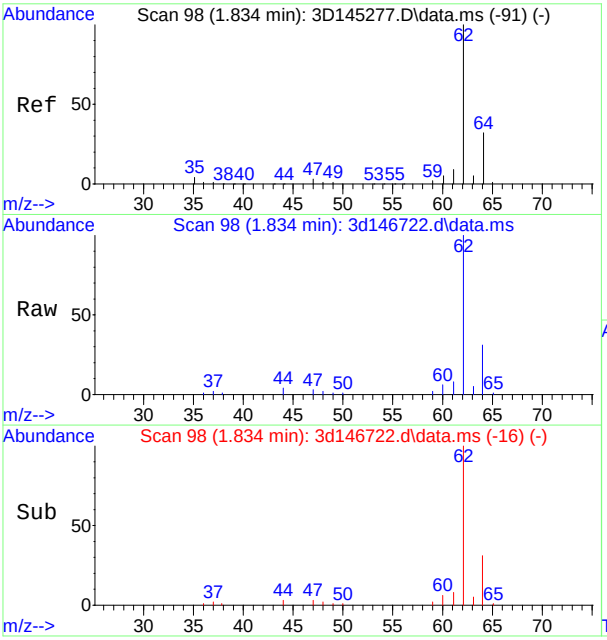
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-19-19\apr 19\v3d6273\
Data File : 3d146722.d
Acq On : 18 Apr 2019 1:54 am
Operator : JessicaP
Sample : JC86426-5
Misc : MS34042,V3D6273,5,,,,1
ALS Vial : 68 Sample Multiplier: 1

Quant Time: Apr 19 14:56:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

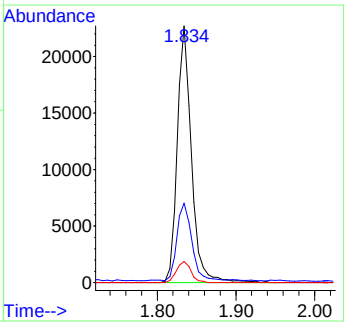


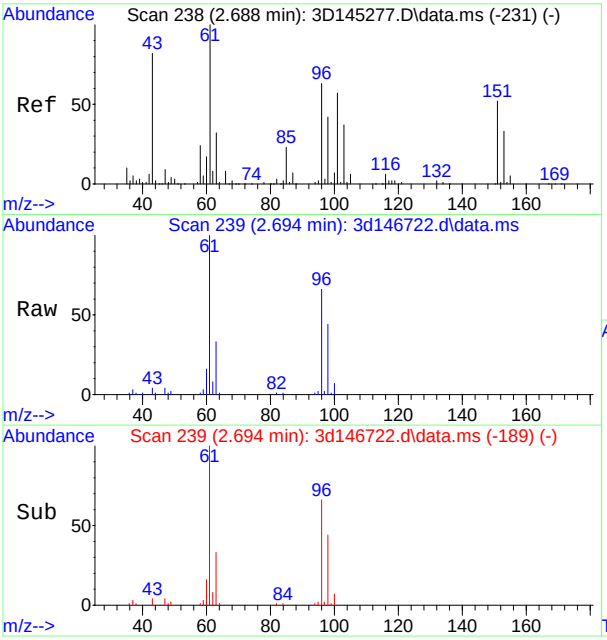


#9
vinyl chloride
Concen: 9.02 ug/L
RT: 1.834 min Scan# 98
Delta R.T. -0.000 min
Lab File: 3d146722.d
Acq: 18 Apr 2019 1:54 am

Tgt Ion: 62 Resp: 28485

Ion	Ratio	Lower	Upper
62	100		
64	30.1	1.5	61.5
61	8.3	0.0	38.8

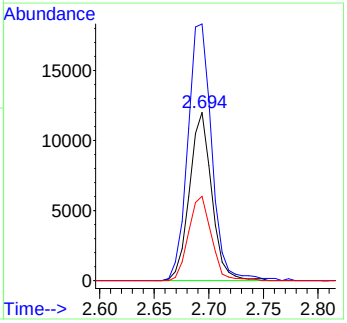


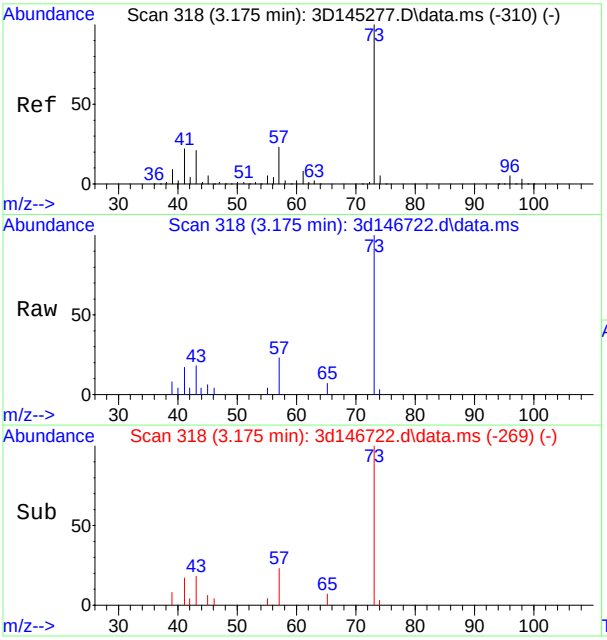


#18
1,1-dichloroethene
Concen: 7.72 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.006 min
Lab File: 3d146722.d
Acq: 18 Apr 2019 1:54 am

Tgt Ion: 96 Resp: 17024

Ion	Ratio	Lower	Upper
96	100		
61	152.6	127.6	187.6
63	50.2	21.0	81.0

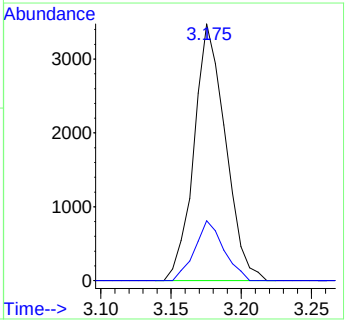


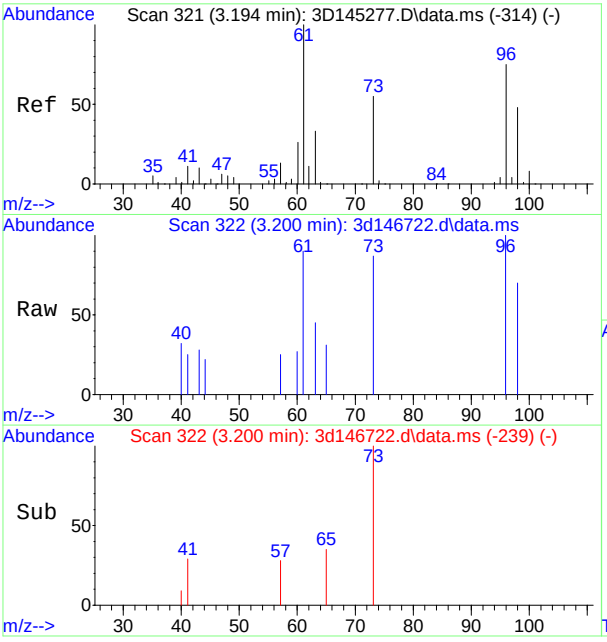


#25
methyl tert butyl ether
Concen: 0.73 ug/L
RT: 3.175 min Scan# 318
Delta R.T. -0.000 min
Lab File: 3d146722.d
Acq: 18 Apr 2019 1:54 am

Tgt Ion: 73 Resp: 5419

Ion	Ratio	Lower	Upper
73	100		
57	23.3	0.0	222.6

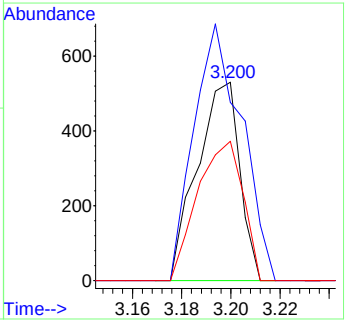


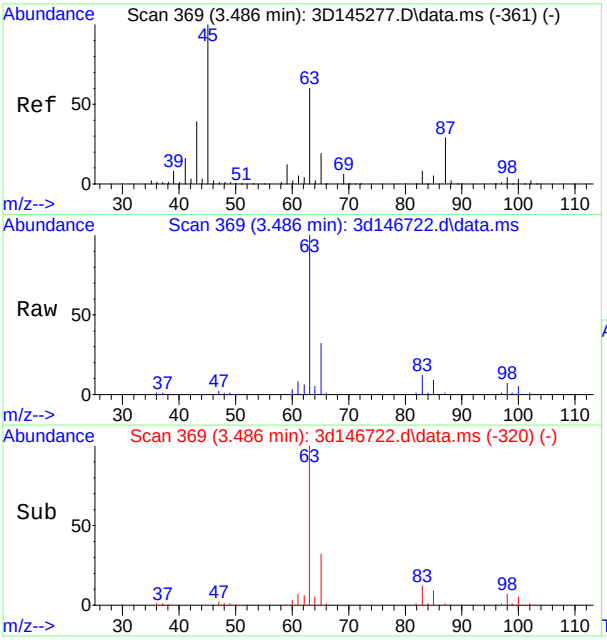


#26
trans-1,2-dichloroethene
Concen: 0.26 ug/L
RT: 3.200 min Scan# 322
Delta R.T. 0.006 min
Lab File: 3d146722.d
Acq: 18 Apr 2019 1:54 am

Tgt Ion: 96 Resp: 636

Ion	Ratio	Lower	Upper
96	100		
61	89.8	103.7	163.7#
98	70.2	33.7	93.7

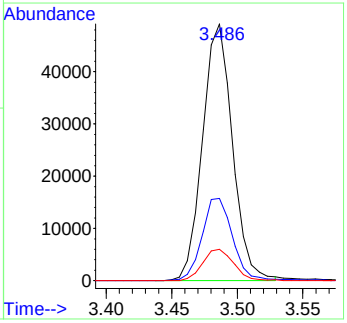


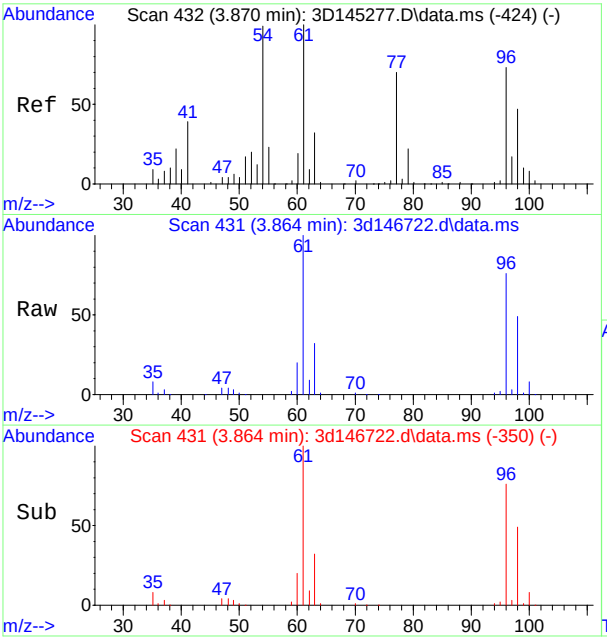


#29
1,1-dichloroethane
Concen: 18.76 ug/L
RT: 3.486 min Scan# 369
Delta R.T. -0.000 min
Lab File: 3d146722.d
Acq: 18 Apr 2019 1:54 am

Tgt Ion: 63 Resp: 78173

Ion	Ratio	Lower	Upper
63	100		
65	32.0	1.5	61.5
83	12.2	0.0	43.7

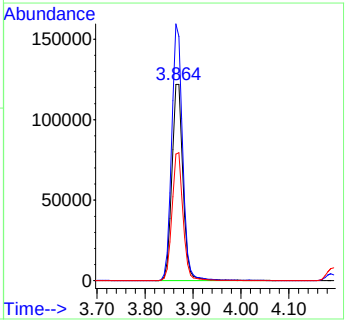


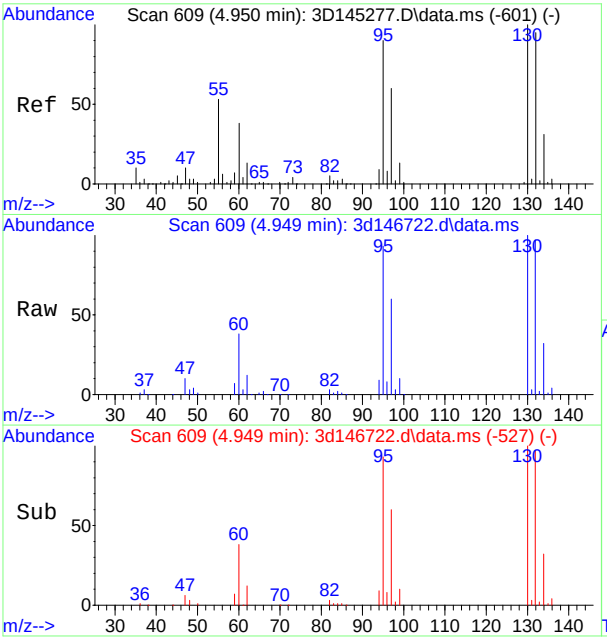


#37
cis-1,2-dichloroethene
Concen: 73.47 ug/L
RT: 3.864 min Scan# 431
Delta R.T. -0.006 min
Lab File: 3d146722.d
Acq: 18 Apr 2019 1:54 am

Tgt Ion: 96 Resp: 195917

Ion	Ratio	Lower	Upper
96	100		
61	130.9	107.5	167.5
98	64.5	35.2	95.2

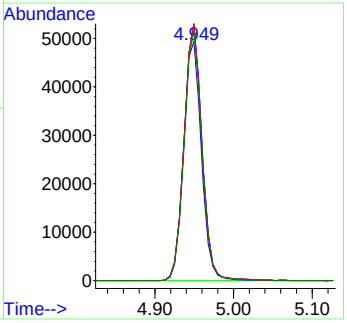


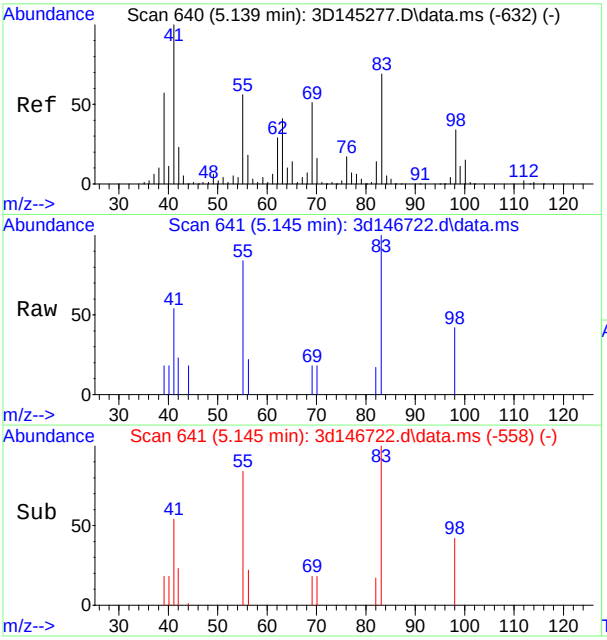


#61
trichloroethene
Concen: 31.09 ug/L
RT: 4.949 min Scan# 609
Delta R.T. -0.000 min
Lab File: 3d146722.d
Acq: 18 Apr 2019 1:54 am

Tgt Ion:130 Resp: 83884

Ion	Ratio	Lower	Upper
130	100		
95	93.0	60.4	120.4
130	100.0	70.0	130.0
132	97.2	65.3	125.3

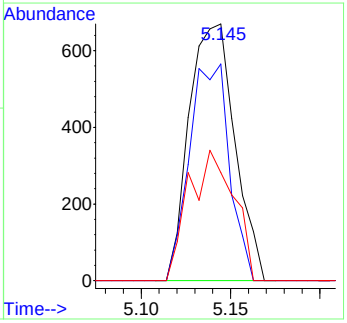


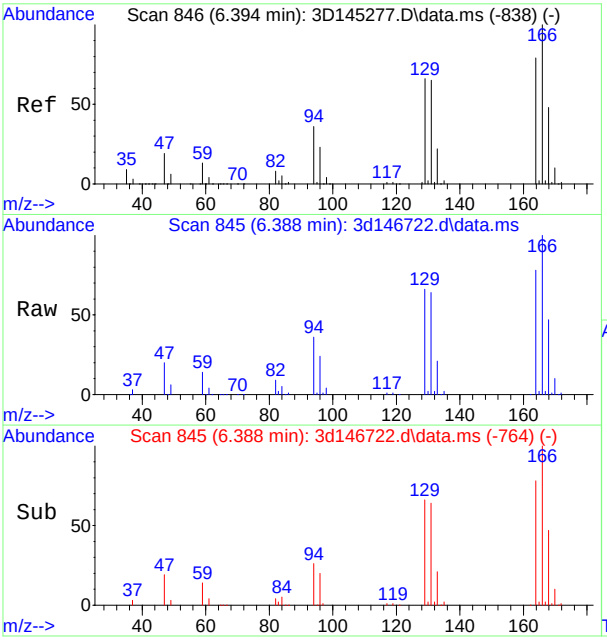


#68
methylcyclohexane
Concen: 0.28 ug/L
RT: 5.145 min Scan# 641
Delta R.T. 0.007 min
Lab File: 3d146722.d
Acq: 18 Apr 2019 1:54 am

Tgt Ion: 83 Resp: 1194

Ion	Ratio	Lower	Upper
83	100		
55	84.3	51.3	111.3
98	42.1	19.5	79.5

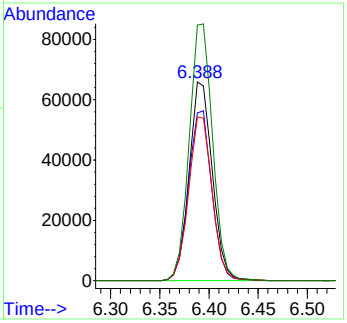




#80
tetrachloroethene
Concen: 48.22 ug/L
RT: 6.388 min Scan# 845
Delta R.T. -0.006 min
Lab File: 3d146722.d
Acq: 18 Apr 2019 1:54 am

Tgt Ion:164 Resp: 108579

Ion	Ratio	Lower	Upper
164	100		
129	84.4	54.1	114.1
131	82.3	52.5	112.5
166	128.6	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146710.d
Acq On : 17 Apr 2019 8:52 pm
Operator : JessicaP
Sample : MB Inst : MS3D
Misc : MS33984,V3D6273,5,,,,1
ALS Vial : 56 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 19 02:39:27 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

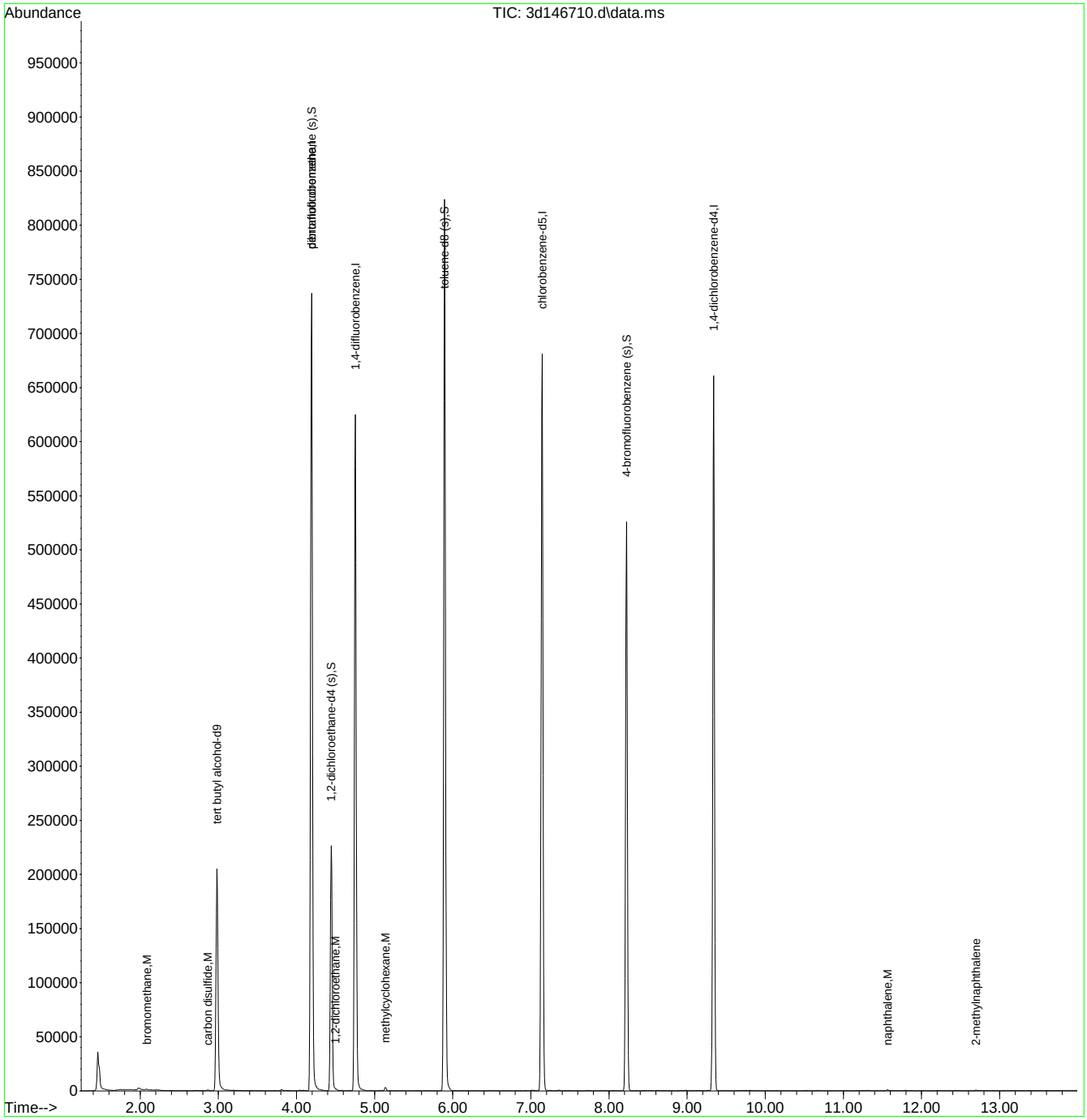
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	210119	500.00	ug/L	0.00
5) pentafluorobenzene	4.193	168	326190	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	451931	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	379429	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	177585	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.193	113	115326	49.76	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.52%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	123552	48.69	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 97.38%			
75) toluene-d8 (s)	5.894	98	497803	51.65	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.30%			
99) 4-bromofluorobenzene (s)	8.223	95	165201	49.27	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.54%			
Target Compounds						Qvalue
11) bromomethane	2.084	94	332	0.29	ug/L	81
22) carbon disulfide	2.864	76	1106	0.19	ug/L	86
60) 1,2-dichloroethane	4.498	62	503	0.15	ug/L	81
68) methylcyclohexane	5.138	83	1261	0.31	ug/L	85
122) naphthalene	11.564	128	1157	0.13	ug/L	74
125) 2-methylnaphthalene	12.698	142	394	0.10	ug/L #	80

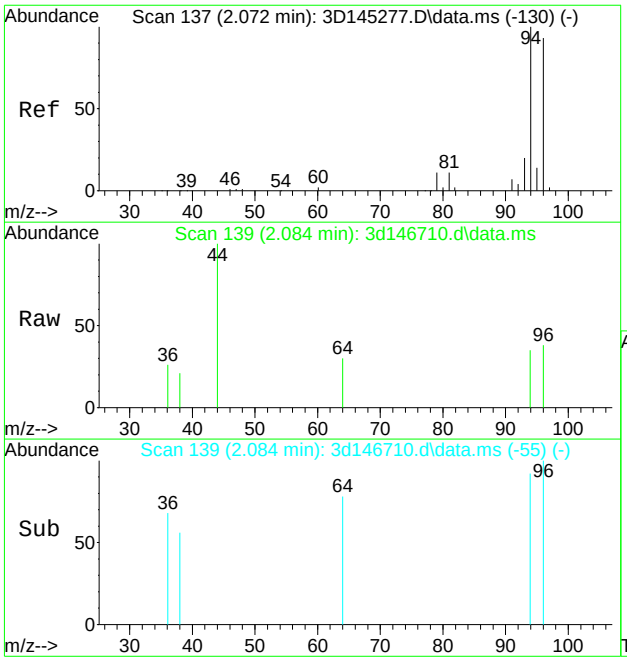
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146710.d
Acq On : 17 Apr 2019 8:52 pm
Operator : JessicaP
Sample : MB Inst : MS3D
Misc : MS33984,V3D6273,5,,,,1
ALS Vial : 56 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 19 02:39:27 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

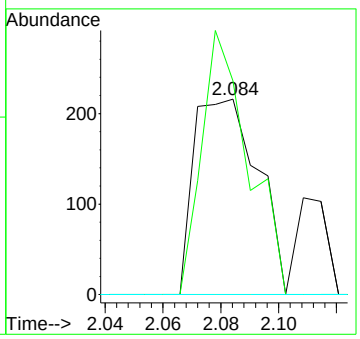


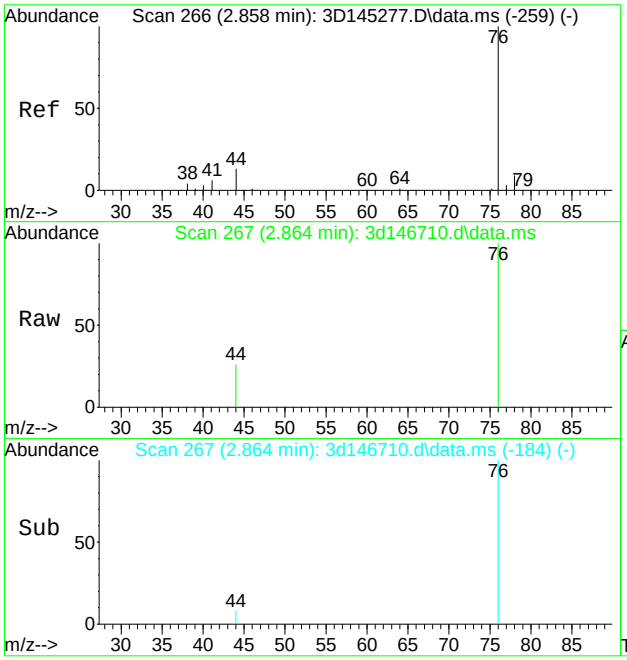


#11
bromomethane
Concen: 0.29 ug/L
RT: 2.084 min Scan# 139
Delta R.T. 0.012 min
Lab File: 3d146710.d
Acq: 17 Apr 2019 8:52 pm

Tgt Ion: 94 Resp: 332

Ion	Ratio	Lower	Upper
94	100		
96	109.3	62.5	122.5
79	0.0	0.0	41.3

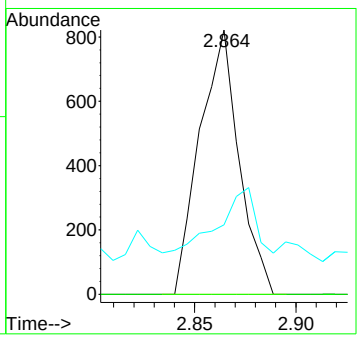


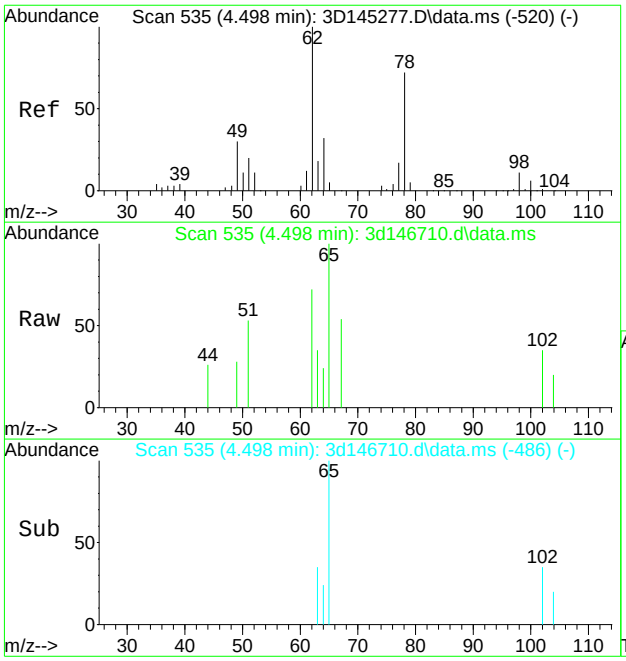


#22
carbon disulfide
Concen: 0.19 ug/L
RT: 2.864 min Scan# 267
Delta R.T. 0.006 min
Lab File: 3d146710.d
Acq: 17 Apr 2019 8:52 pm

Tgt Ion: 76 Resp: 1106

Ion	Ratio	Lower	Upper
76	100		
78	0.0	0.0	39.3
44	10.6	0.0	42.7

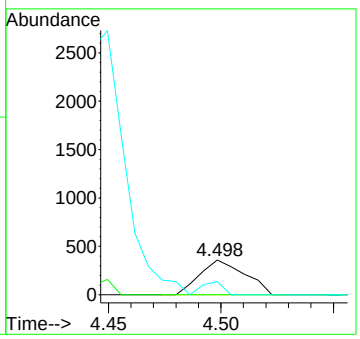


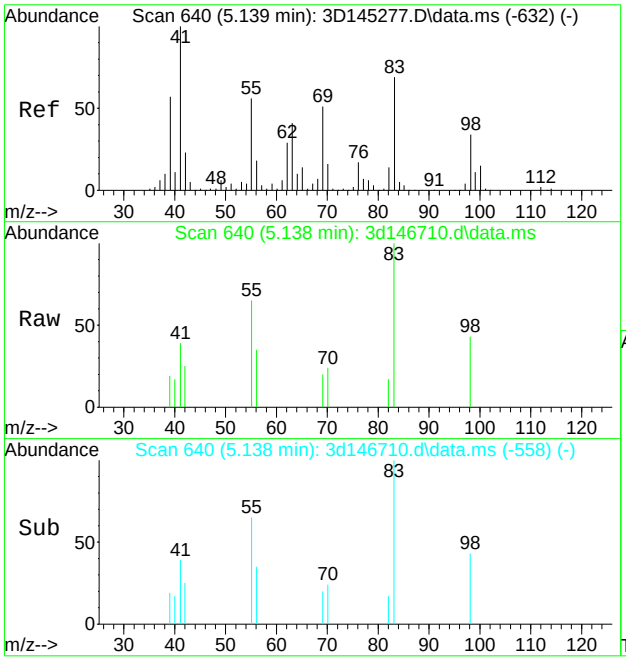


#60
1,2-dichloroethane
Concen: 0.15 ug/L
RT: 4.498 min Scan# 535
Delta R.T. 0.000 min
Lab File: 3d146710.d
Acq: 17 Apr 2019 8:52 pm

Tgt Ion: 62 Resp: 503

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	40.6
49	38.2	0.0	59.7

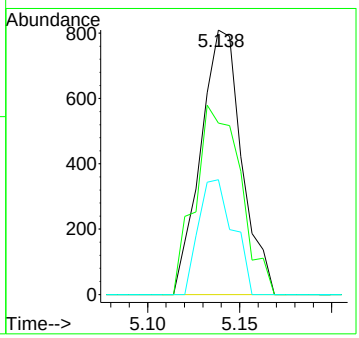


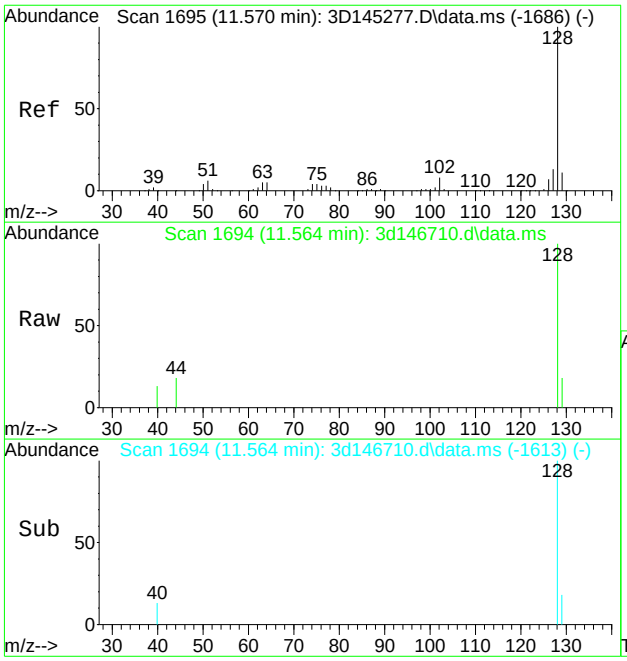


#68
methylcyclohexane
Concen: 0.31 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3d146710.d
Acq: 17 Apr 2019 8:52 pm

Tgt Ion: 83 Resp: 1261

Ion	Ratio	Lower	Upper
83	100		
55	64.8	51.3	111.3
98	43.3	19.5	79.5

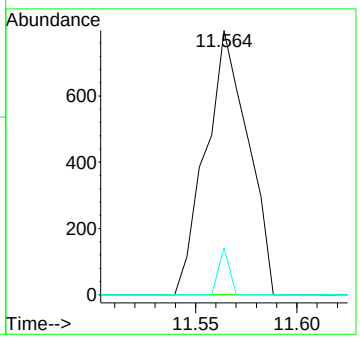


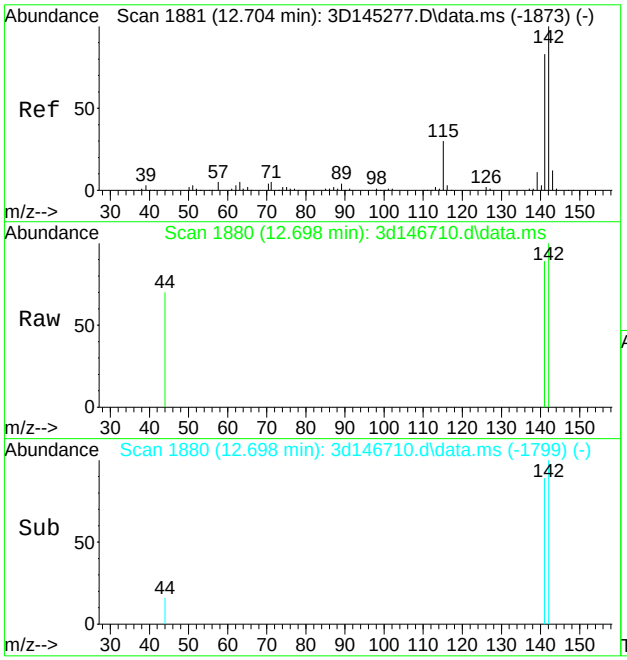


#122
naphthalene
Concen: 0.13 ug/L
RT: 11.564 min Scan# 1694
Delta R.T. -0.006 min
Lab File: 3d146710.d
Acq: 17 Apr 2019 8:52 pm

Tgt Ion:128 Resp: 1157

Ion	Ratio	Lower	Upper
128	100		
127	0.0	0.0	43.1
129	17.8	0.0	40.8

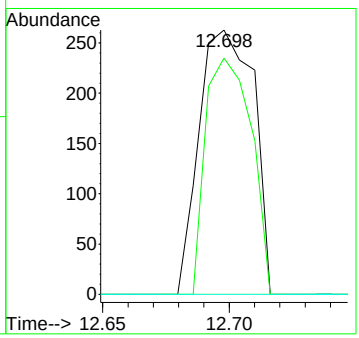




#125
2-methylnaphthalene
Concen: 0.10 ug/L
RT: 12.698 min Scan# 1880
Delta R.T. -0.006 min
Lab File: 3d146710.d
Acq: 17 Apr 2019 8:52 pm

Tgt Ion:142 Resp: 394

Ion	Ratio	Lower	Upper
142	100		
141	89.4	62.8	102.8
115	0.0	9.9	49.9#



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146740.d
Acq On : 18 Apr 2019 9:48 am
Operator : JessicaP
Sample : mb Inst : MS3D
Misc : MS33984,V3D6274,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 20:47:26 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

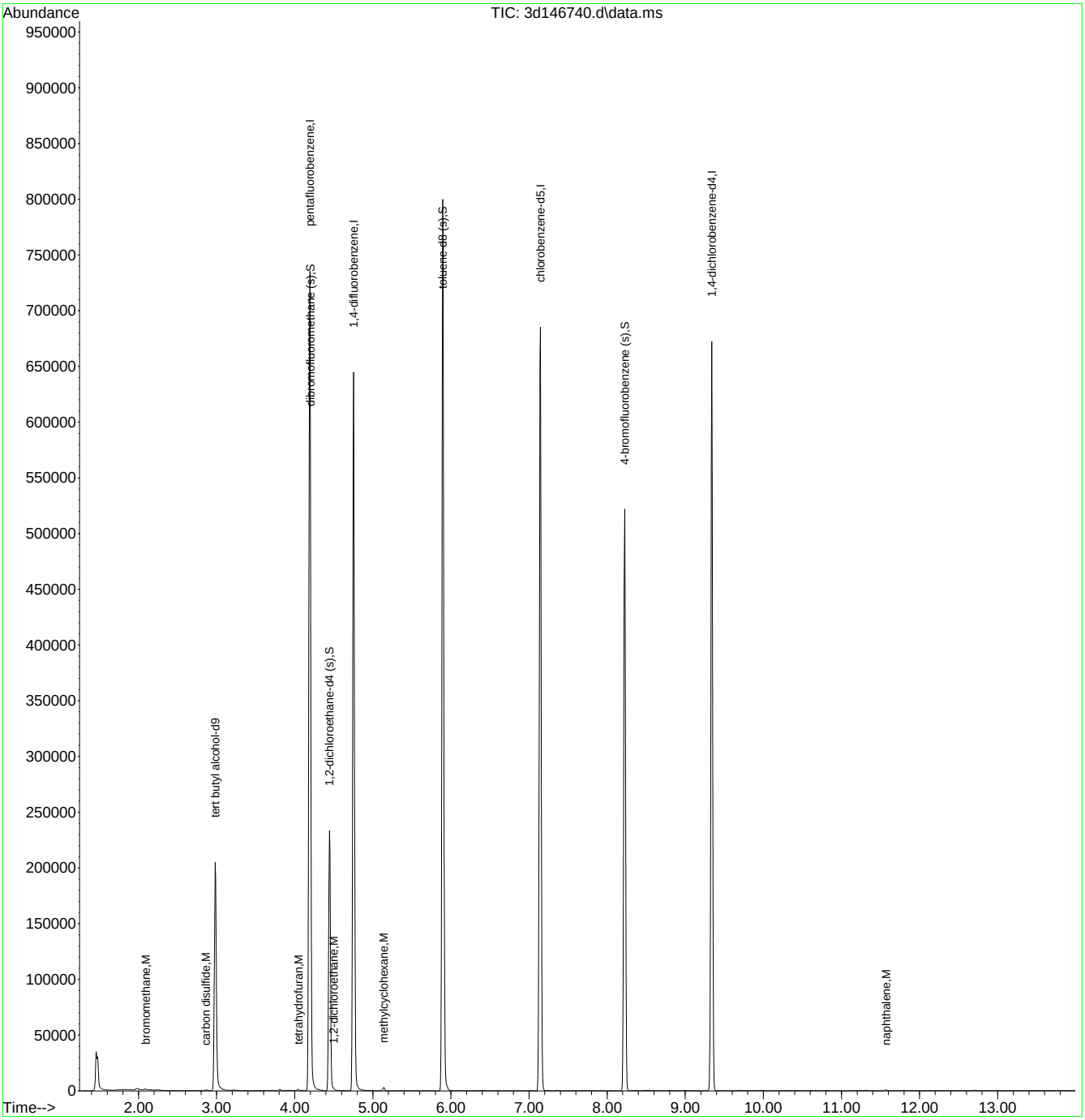
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	2.980	65	207477	500.00	ug/L		0.00
5) pentafluorobenzene	4.193	168	323498	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	448415	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	378973	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	177987	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.200	113	115003	50.03	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.06%				
53) 1,2-dichloroethane-d4 (s)	4.443	65	126427	50.21	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 100.42%				
75) toluene-d8 (s)	5.894	98	494207	51.34	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.68%				
99) 4-bromofluorobenzene (s)	8.223	95	166141	49.44	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.88%				
Target Compounds							Qvalue
11) bromomethane	2.090	94	338	0.29	ug/L		81
22) carbon disulfide	2.858	76	1009	0.17	ug/L		71
41) tetrahydrofuran	4.047	72	226	0.47	ug/L	#	50
60) 1,2-dichloroethane	4.498	62	583	0.18	ug/L		52
68) methylcyclohexane	5.138	83	1154	0.28	ug/L		86
122) naphthalene	11.570	128	1049	0.11	ug/L		84

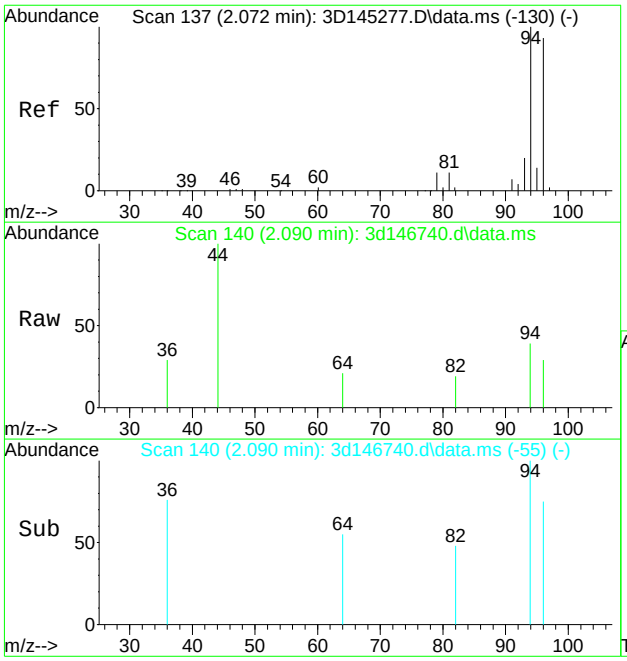
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146740.d
Acq On : 18 Apr 2019 9:48 am
Operator : JessicaP
Sample : mb Inst : MS3D
Misc : MS33984,V3D6274,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 20:47:26 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

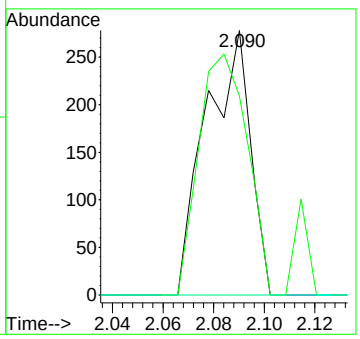


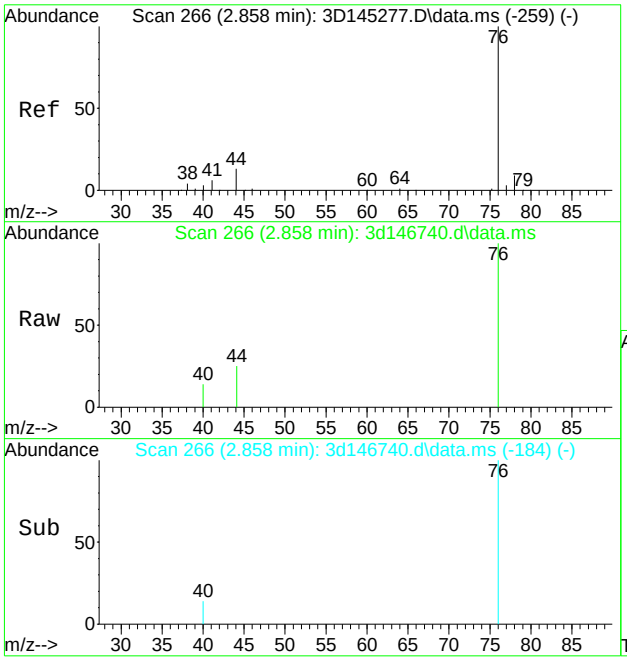


#11
bromomethane
Concen: 0.29 ug/L
RT: 2.090 min Scan# 140
Delta R.T. 0.018 min
Lab File: 3d146740.d
Acq: 18 Apr 2019 9:48 am

Tgt Ion: 94 Resp: 338

Ion	Ratio	Lower	Upper
94	100		
96	75.2	62.5	122.5
79	0.0	0.0	41.3

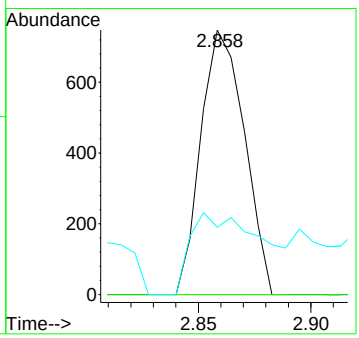


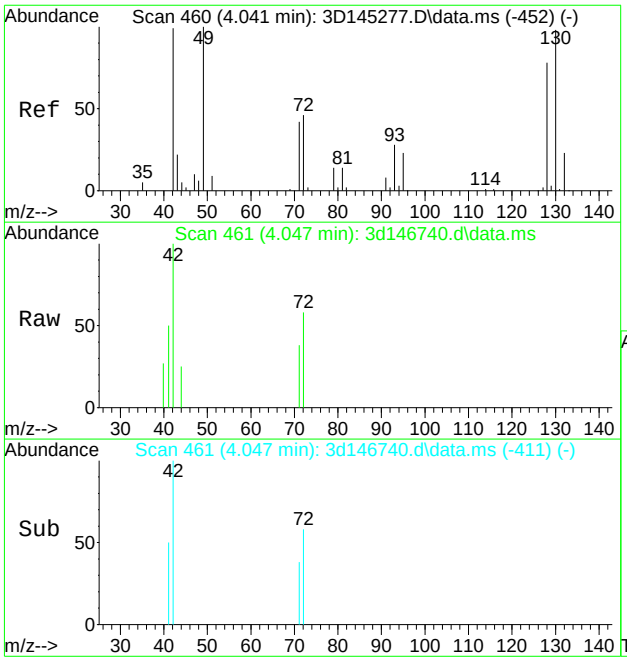


#22
carbon disulfide
Concen: 0.17 ug/L
RT: 2.858 min Scan# 266
Delta R.T. 0.000 min
Lab File: 3d146740.d
Acq: 18 Apr 2019 9:48 am

Tgt Ion: 76 Resp: 1009

Ion	Ratio	Lower	Upper
76	100		
78	0.0	0.0	39.3
44	25.4	0.0	42.7

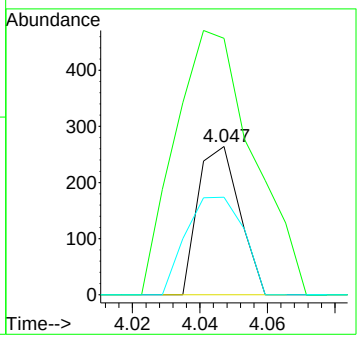


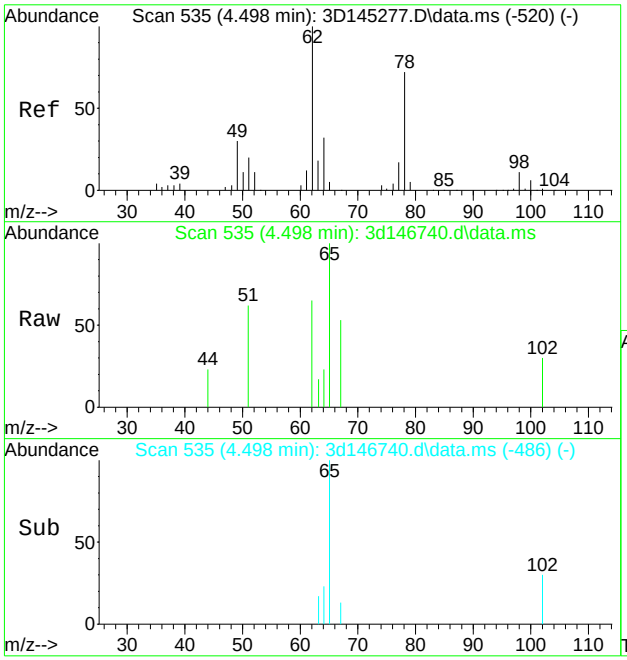


#41
tetrahydrofuran
Concen: 0.47 ug/L
RT: 4.047 min Scan# 461
Delta R.T. 0.006 min
Lab File: 3d146740.d
Acq: 18 Apr 2019 9:48 am

Tgt Ion: 72 Resp: 226

Ion	Ratio	Lower	Upper
72	100		
42	124.6	190.1	250.1#
71	65.9	61.4	121.4

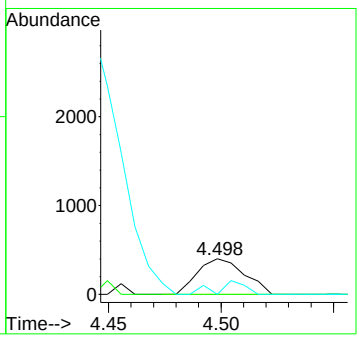


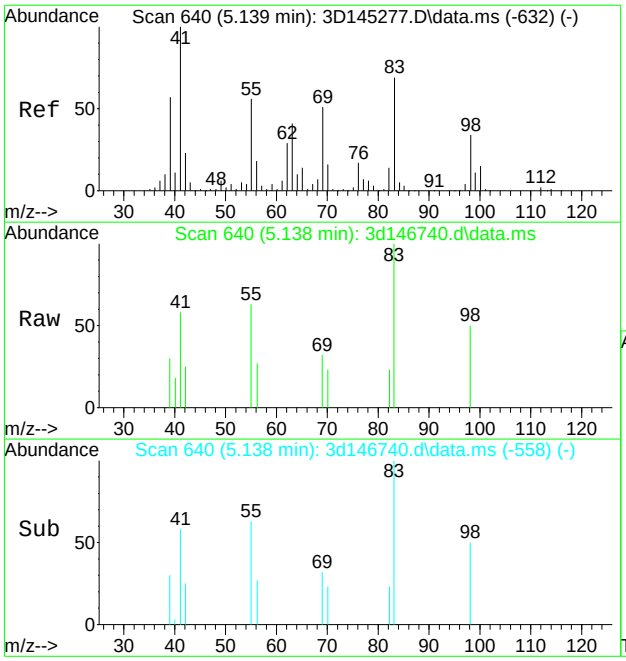


#60
1,2-dichloroethane
Concen: 0.18 ug/L
RT: 4.498 min Scan# 535
Delta R.T. 0.000 min
Lab File: 3d146740.d
Acq: 18 Apr 2019 9:48 am

Tgt Ion: 62 Resp: 583

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	40.6
49	0.0	0.0	59.7

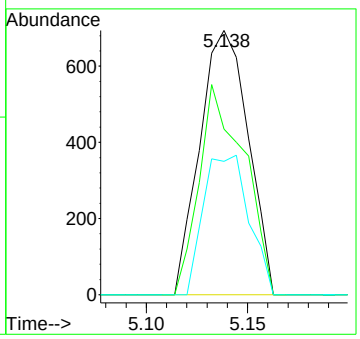


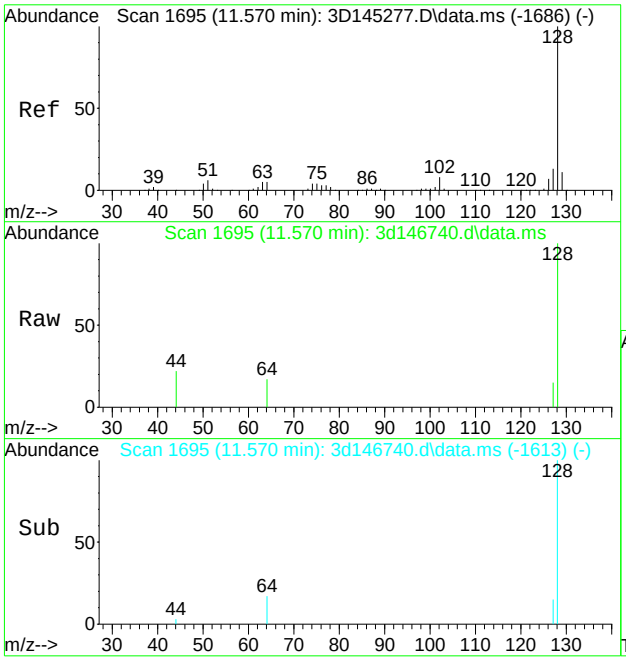


#68
methylcyclohexane
Concen: 0.28 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3d146740.d
Acq: 18 Apr 2019 9:48 am

Tgt Ion: 83 Resp: 1154

Ion	Ratio	Lower	Upper
83	100		
55	62.7	51.3	111.3
98	50.4	19.5	79.5

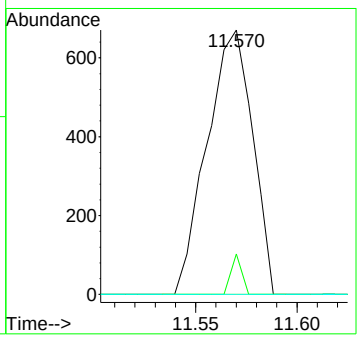




#122
naphthalene
Concen: 0.11 ug/L
RT: 11.570 min Scan# 1695
Delta R.T. -0.000 min
Lab File: 3d146740.d
Acq: 18 Apr 2019 9:48 am

Tgt Ion:128 Resp: 1049

Ion	Ratio	Lower	Upper
128	100		
127	15.4	0.0	43.1
129	0.0	0.0	40.8



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146707.d
Acq On : 17 Apr 2019 7:36 pm
Operator : JessicaP
Sample : BS Inst : MS3D
Misc : MS33757,V3D6273,5,,,,1
ALS Vial : 53 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:31:13 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	2.987	65	215315	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	331462	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	467507	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	399772	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	187733	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.194	113	122113	51.85	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.70%				
53) 1,2-dichloroethane-d4 (s)	4.444	65	126471	48.18	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 96.36%				
75) toluene-d8 (s)	5.895	98	517971	51.01	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.02%				
99) 4-bromofluorobenzene (s)	8.223	95	176412	49.77	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.54%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	132743	238.16	ug/L		98
3) ethanol	2.420	45	282518	5466.15	ug/L		98
4) 1,4-dioxane	5.181	88	63335	1262.41	ug/L		98
6) chlorodifluoromethane	1.615	51	109674	36.38	ug/L		97
7) dichlorodifluoromethane	1.603	85	119858	35.88	ug/L		98
8) chloromethane	1.749	50	126367	40.67	ug/L		99
9) vinyl chloride	1.834	62	134145	42.61	ug/L		100
10) 1,3-butadiene	1.865	54	100032	38.42	ug/L		99
11) bromomethane	2.072	94	43301	36.76	ug/L		95
12) chloroethane	2.151	64	85088	43.69	ug/L		100
13) trichlorofluoromethane	2.334	101	160841	40.64	ug/L		99
14) vinyl bromide	2.292	106	72644	39.53	ug/L		98
15) ethyl ether	2.511	74	79705	54.37	ug/L		99
16) acrolein	2.609	56	29760	51.41	ug/L		99
17) freon 113	2.688	151	77286	35.64	ug/L		97
18) 1,1-dichloroethene	2.688	96	98862	44.96	ug/L		98
19) acetone	2.694	58	78814	238.46	ug/L		88
20) acetonitrile	2.877	41	271459	538.36	ug/L		97
21) iodomethane	2.804	142	41539	45.62	ug/L		97
22) carbon disulfide	2.859	76	256678	42.82	ug/L		98
23) methylene chloride	3.011	84	119286	48.34	ug/L		98
24) methyl acetate	2.901	43	139040	50.74	ug/L		99
25) methyl tert butyl ether	3.176	73	382393	51.99	ug/L		99
26) trans-1,2-dichloroethene	3.194	96	112860	45.66	ug/L		98
27) di-isopropyl ether	3.480	45	436736	52.76	ug/L		98
28) 2-butanone	3.834	72	99788	222.93	ug/L		100
29) 1,1-dichloroethane	3.486	63	203039	48.86	ug/L		99
30) chloroprene	3.535	53	179139	45.19	ug/L		98
31) acrylonitrile	3.151	53	71931	56.64	ug/L		99
32) hexane	3.371	56	79080	37.97	ug/L		99
33) vinyl acetate	3.456	86	36154	51.10	ug/L	#	85
34) ethyl tert-butyl ether	3.724	59	411096	52.26	ug/L		99
35) ethyl acetate	3.846	45	28555	51.33	ug/L	#	48
36) 2,2-dichloropropane	3.877	77	162968	45.48	ug/L		100
37) cis-1,2-dichloroethene	3.864	96	127428	47.91	ug/L		96
38) methyl acrylate	3.889	85	27235	52.16	ug/L	#	67
39) propionitrile	3.877	54	303436	551.16	ug/L		82
40) bromochloromethane	4.029	128	61886	52.30	ug/L		88
41) tetrahydrofuran	4.041	72	25845	51.94	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146707.d
Acq On : 17 Apr 2019 7:36 pm
Operator : JessicaP
Sample : BS Inst : MS3D
Misc : MS33757,V3D6273,5,,,,1
ALS Vial : 53 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:31:13 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) chloroform	4.084	85	123384	45.50	ug/L		99
43) t-butyl formate	4.102	59	105941	46.92	ug/L		90
45) methacrylonitrile	3.986	67	72719	55.03	ug/L		99
46) 1,1,1-trichloroethane	4.224	97	161598	43.33	ug/L		98
47) cyclohexane	4.291	84	163727	41.37	ug/L	#	86
48) 1,1-dichloropropene	4.334	75	154298	44.85	ug/L		100
49) iso-butyl alcohol	4.334	43	116176	528.97	ug/L		98
50) carbon tetrachloride	4.340	117	133953	43.97	ug/L		99
51) tert amyl alcohol	4.425	55	46742	248.66	ug/L		98
54) n-butyl alcohol	4.809	56	391971	2601.64	ug/L		97
55) 2,2,4-trimethylpentane	4.547	57	270785	40.84	ug/L		98
56) benzene	4.480	78	479723	47.65	ug/L		99
57) tert-amyl methyl ether	4.541	87	96033	49.06	ug/L		92
58) heptane	4.657	71	69148	40.38	ug/L		98
59) isopropyl acetate	4.450	87	41307	49.73	ug/L	#	86
60) 1,2-dichloroethane	4.498	62	154867	45.76	ug/L		96
61) trichloroethene	4.950	130	122578	45.23	ug/L		98
62) ethyl acrylate	4.962	55	223927	54.17	ug/L		98
63) 2-nitropropane	5.486	41	38481	51.78	ug/L		92
64) 2-chloroethyl vinyl ether	5.523	63	470344	278.15	ug/L		98
65) methyl methacrylate	5.139	69	155991	47.45	ug/L		98
66) 1,2-dichloropropane	5.139	63	125392	51.47	ug/L		99
67) dibromomethane	5.212	93	72799	50.92	ug/L		99
68) methylcyclohexane	5.139	83	170407	39.98	ug/L		97
69) bromodichloromethane	5.328	83	152517	51.18	ug/L		99
70) epichlorohydrin	5.571	57	109448	271.63	ug/L		97
71) cis-1,3-dichloropropene	5.669	75	199934	51.09	ug/L		96
72) 4-methyl-2-pentanone	5.766	58	304850	219.27	ug/L		99
73) 3-methyl-1-butanol	5.785	55	216788	1013.79	ug/L		96
76) toluene	5.955	92	302049	46.60	ug/L		100
77) trans-1,3-dichloropropene	6.120	75	183863	50.72	ug/L		99
78) ethyl methacrylate	6.144	69	206901	54.49	ug/L		98
79) 1,1,2-trichloroethane	6.291	83	96672	52.68	ug/L		94
80) tetrachloroethene	6.394	164	101406	44.65	ug/L		99
81) 1,3-dichloropropane	6.431	76	199106	51.94	ug/L		97
82) 2-hexanone	6.455	58	316529	219.99	ug/L		98
83) butyl acetate	6.541	56	125607	55.27	ug/L		98
84) dibromochloromethane	6.626	129	121036	55.68	ug/L		98
85) 1,2-dibromoethane	6.742	107	156795	53.83	ug/L		98
86) n-butyl ether	7.224	57	530279	51.15	ug/L		99
87) chlorobenzene	7.169	112	319707	46.32	ug/L		97
88) 1,1,1,2-tetrachloroethane	7.242	131	112370	49.71	ug/L		99
89) ethylbenzene	7.248	91	554683	46.73	ug/L		99
90) m,p-xylene	7.364	106	431468	92.57	ug/L		98
91) o-xylene	7.717	106	211393	47.06	ug/L		99
92) styrene	7.730	104	367275	48.75	ug/L		94
93) bromoform	7.906	173	93128	57.78	ug/L		100
94) butyl acrylate	7.638	55	309504	57.91	ug/L		98
95) n-amyl acetate	7.845	70	125522	54.26	ug/L		99
96) isopropylbenzene	8.053	105	518574	45.74	ug/L		99
97) cis-1,4-dichloro-2-butene	8.101	88	54920	45.16	ug/L		92
100) bromobenzene	8.370	156	141089	47.38	ug/L		98
101) 1,1,2,2-tetrachloroethane	8.333	83	175157	53.78	ug/L		98
102) trans-1,4-dichloro-2-b...	8.370	53	43780	45.07	ug/L		91
103) 1,2,3-trichloropropane	8.394	110	55804	49.49	ug/L		97
104) n-propylbenzene	8.449	91	590628	46.05	ug/L		98
105) 2-chlorotoluene	8.546	126	122795	45.98	ug/L		94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146707.d
Acq On : 17 Apr 2019 7:36 pm
Operator : JessicaP
Sample : BS Inst : MS3D
Misc : MS33757,V3D6273,5,,,,1
ALS Vial : 53 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:31:13 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

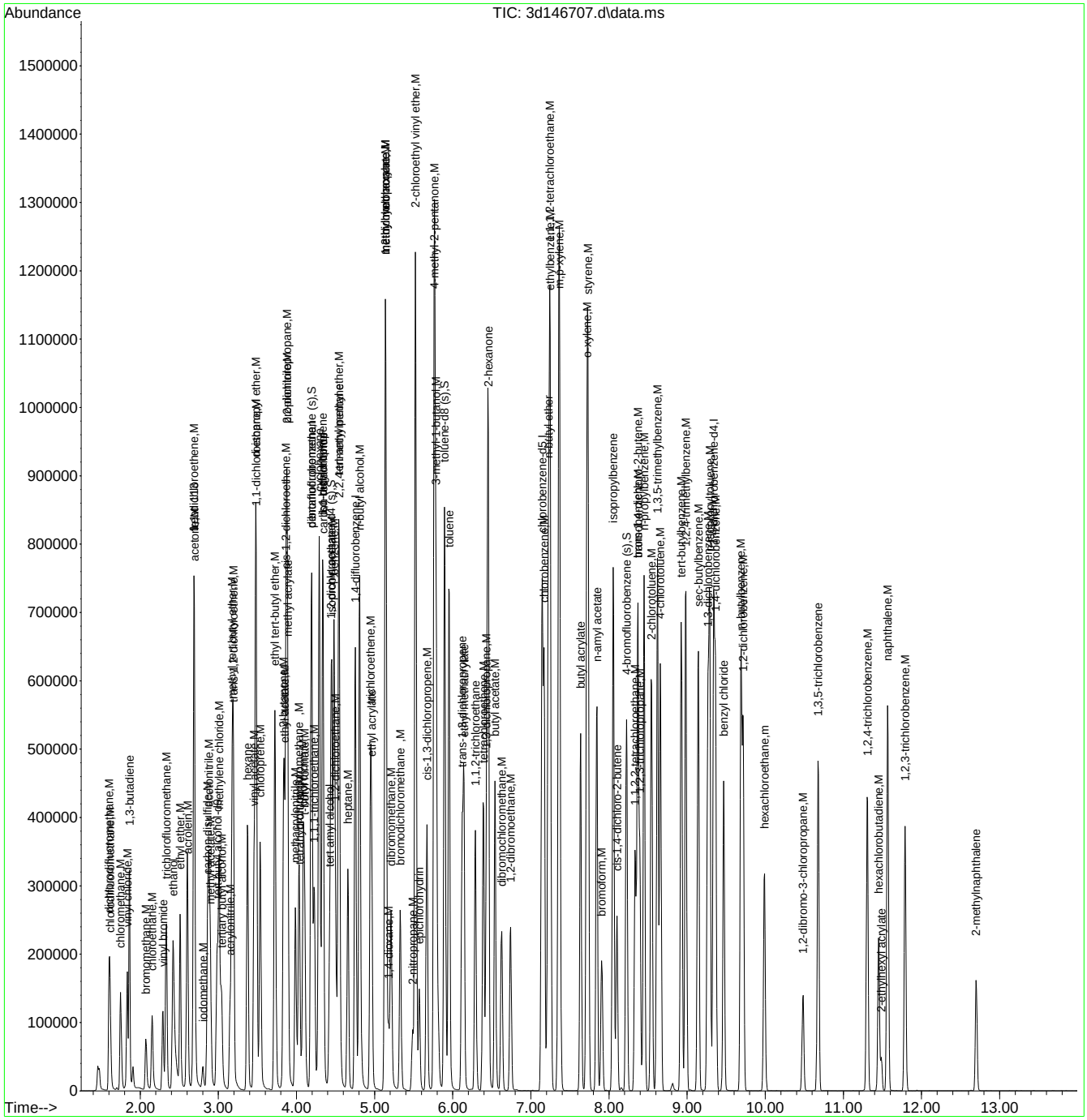
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.656	126	123906	46.34	ug/L	99
107) 1,3,5-trimethylbenzene	8.620	105	411741	45.51	ug/L	97
108) tert-butylbenzene	8.924	134	89365	44.32	ug/L	98
109) 1,2,4-trimethylbenzene	8.985	105	419926	47.05	ug/L	99
110) sec-butylbenzene	9.144	105	478399	45.27	ug/L	99
111) 1,3-dichlorobenzene	9.266	146	249178	47.34	ug/L	97
112) p-isopropyltoluene	9.290	119	416411	45.22	ug/L	98
113) 1,4-dichlorobenzene	9.363	146	253629	47.48	ug/L	99
114) benzyl chloride	9.467	91	323744	51.98	ug/L	100
115) 1,2-dichlorobenzene	9.717	146	237366	47.21	ug/L	99
116) n-butylbenzene	9.686	92	191337	47.02	ug/L	97
117) 1,2-dibromo-3-chloropr...	10.479	75	34110	50.93	ug/L	96
118) 1,3,5-trichlorobenzene	10.674	180	166125	46.76	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	12324	7.18	ug/L	92
120) 1,2,4-trichlorobenzene	11.308	180	149372	48.56	ug/L	99
121) hexachlorobutadiene	11.448	225	51443	42.47	ug/L	100
122) naphthalene	11.564	128	462516	47.37	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	134110	47.59	ug/L	98
124) hexachloroethane	9.991	201	63903	49.33	ug/L	97
125) 2-methylnaphthalene	12.698	142	82020	20.44	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146707.d
Acq On : 17 Apr 2019 7:36 pm
Operator : JessicaP
Sample : BS Inst : MS3D
Misc : MS33757,V3D6273,5,,,,1
ALS Vial : 53 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:31:13 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146708.d
Acq On : 17 Apr 2019 8:02 pm
Operator : JessicaP
Sample : BSD Inst : MS3D
Misc : MS33757,V3D6273,5,,,,1
ALS Vial : 54 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:31:22 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	2.980	65	205418	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	326627	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	455131	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	387933	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	180056	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.194	113	117444	50.60	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.20%				
53) 1,2-dichloroethane-d4 (s)	4.443	65	121581	47.57	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 95.14%				
75) toluene-d8 (s)	5.894	98	505786	51.33	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.66%				
99) 4-bromofluorobenzene (s)	8.223	95	170735	50.22	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.44%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	130621	245.65	ug/L		98
3) ethanol	2.419	45	277310	5623.88	ug/L		97
4) 1,4-dioxane	5.181	88	61685	1288.76	ug/L		99
6) chlorodifluoromethane	1.615	51	111065	37.39	ug/L		97
7) dichlorodifluoromethane	1.603	85	120205	36.52	ug/L		100
8) chloromethane	1.749	50	127026	41.49	ug/L		99
9) vinyl chloride	1.834	62	137232	44.23	ug/L		100
10) 1,3-butadiene	1.859	54	101570	39.59	ug/L		99
11) bromomethane	2.072	94	48405	41.71	ug/L		96
12) chloroethane	2.151	64	85802	44.71	ug/L		99
13) trichlorofluoromethane	2.334	101	160707	41.21	ug/L		98
14) vinyl bromide	2.291	106	74304	41.04	ug/L		97
15) ethyl ether	2.511	74	79321	54.91	ug/L		98
16) acrolein	2.608	56	29518	51.74	ug/L		96
17) freon 113	2.688	151	78616	36.79	ug/L		97
18) 1,1-dichloroethene	2.688	96	100478	46.37	ug/L		99
19) acetone	2.694	58	77237	237.15	ug/L	#	83
20) acetonitrile	2.877	41	267252	537.86	ug/L		99
21) iodomethane	2.804	142	47977	53.47	ug/L		98
22) carbon disulfide	2.858	76	262764	44.48	ug/L		98
23) methylene chloride	3.011	84	116473	47.90	ug/L		95
24) methyl acetate	2.895	43	140998	52.22	ug/L		97
25) methyl tert butyl ether	3.175	73	378242	52.19	ug/L		98
26) trans-1,2-dichloroethene	3.194	96	114736	47.10	ug/L		98
27) di-isopropyl ether	3.480	45	432092	52.97	ug/L		97
28) 2-butanone	3.834	72	99741	226.12	ug/L		96
29) 1,1-dichloroethane	3.480	63	203932	49.80	ug/L		99
30) chloroprene	3.535	53	181905	46.57	ug/L		98
31) acrylonitrile	3.151	53	71101	56.82	ug/L		97
32) hexane	3.370	56	79126	38.55	ug/L		98
33) vinyl acetate	3.456	86	37295	53.50	ug/L		94
34) ethyl tert-butyl ether	3.724	59	407589	52.58	ug/L		99
35) ethyl acetate	3.846	45	29079	53.04	ug/L	#	31
36) 2,2-dichloropropane	3.876	77	165479	46.87	ug/L		99
37) cis-1,2-dichloroethene	3.864	96	128427	49.00	ug/L		99
38) methyl acrylate	3.889	85	27402	53.25	ug/L	#	66
39) propionitrile	3.876	54	302714	557.99	ug/L		83
40) bromochloromethane	4.029	128	60734	52.09	ug/L		87
41) tetrahydrofuran	4.041	72	25282	51.56	ug/L		92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146708.d
Acq On : 17 Apr 2019 8:02 pm
Operator : JessicaP
Sample : BSD Inst : MS3D
Misc : MS33757,V3D6273,5,,,,1
ALS Vial : 54 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:31:22 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) chloroform	4.084	85	125831	47.09	ug/L		100
43) t-butyl formate	4.102	59	105985	47.64	ug/L		88
45) methacrylonitrile	3.986	67	73049	56.10	ug/L		99
46) 1,1,1-trichloroethane	4.230	97	164954	44.89	ug/L		99
47) cyclohexane	4.291	84	166221	42.62	ug/L	#	85
48) 1,1-dichloropropene	4.334	75	157891	46.57	ug/L		99
49) iso-butyl alcohol	4.334	43	115152	532.07	ug/L		97
50) carbon tetrachloride	4.340	117	136500	45.47	ug/L		97
51) tert amyl alcohol	4.425	55	45640	246.39	ug/L		98
54) n-butyl alcohol	4.809	56	389419	2654.99	ug/L		98
55) 2,2,4-trimethylpentane	4.547	57	274573	42.54	ug/L		98
56) benzene	4.480	78	485839	49.57	ug/L		100
57) tert-amyl methyl ether	4.541	87	96431	50.61	ug/L		92
58) heptane	4.657	71	70705	42.41	ug/L		99
59) isopropyl acetate	4.450	87	41696	51.56	ug/L	#	87
60) 1,2-dichloroethane	4.498	62	154351	46.85	ug/L		94
61) trichloroethene	4.949	130	124547	47.21	ug/L		99
62) ethyl acrylate	4.962	55	224831	55.87	ug/L		98
63) 2-nitropropane	5.486	41	39258	54.26	ug/L		95
64) 2-chloroethyl vinyl ether	5.523	63	469821	285.39	ug/L		98
65) methyl methacrylate	5.138	69	156703	48.97	ug/L		97
66) 1,2-dichloropropane	5.138	63	126149	53.19	ug/L		99
67) dibromomethane	5.212	93	73486	52.79	ug/L		98
68) methylcyclohexane	5.138	83	172861	41.66	ug/L		97
69) bromodichloromethane	5.327	83	153299	52.85	ug/L		100
70) epichlorohydrin	5.571	57	110077	280.62	ug/L		95
71) cis-1,3-dichloropropene	5.669	75	201578	52.91	ug/L		95
72) 4-methyl-2-pentanone	5.766	58	305335	225.59	ug/L		98
73) 3-methyl-1-butanol	5.785	55	217696	1045.72	ug/L		96
76) toluene	5.955	92	305067	48.50	ug/L		99
77) trans-1,3-dichloropropene	6.120	75	181809	51.69	ug/L		98
78) ethyl methacrylate	6.144	69	203549	55.24	ug/L		99
79) 1,1,2-trichloroethane	6.291	83	95610	53.69	ug/L		95
80) tetrachloroethene	6.394	164	105467	47.85	ug/L		99
81) 1,3-dichloropropane	6.437	76	200811	53.98	ug/L		96
82) 2-hexanone	6.455	58	317826	227.64	ug/L		98
83) butyl acetate	6.541	56	125770	57.03	ug/L		99
84) dibromochloromethane	6.626	129	120910	57.32	ug/L		98
85) 1,2-dibromoethane	6.742	107	158565	56.10	ug/L		99
86) n-butyl ether	7.223	57	534758	53.15	ug/L		99
87) chlorobenzene	7.169	112	322407	48.13	ug/L		98
88) 1,1,1,2-tetrachloroethane	7.242	131	113278	51.65	ug/L		98
89) ethylbenzene	7.248	91	564524	49.01	ug/L		100
90) m,p-xylene	7.364	106	437571	96.74	ug/L		100
91) o-xylene	7.717	106	214115	49.13	ug/L		97
92) styrene	7.729	104	370022	50.61	ug/L		94
93) bromoform	7.906	173	92914	59.40	ug/L		99
94) butyl acrylate	7.638	55	309901	59.76	ug/L		98
95) n-amyl acetate	7.845	70	125956	56.11	ug/L		97
96) isopropylbenzene	8.053	105	530878	48.26	ug/L		99
97) cis-1,4-dichloro-2-butene	8.101	88	55622	47.14	ug/L		96
100) bromobenzene	8.370	156	142291	49.82	ug/L		99
101) 1,1,2,2-tetrachloroethane	8.333	83	173882	55.67	ug/L		97
102) trans-1,4-dichloro-2-b...	8.370	53	44302	47.55	ug/L		92
103) 1,2,3-trichloropropane	8.394	110	55634	51.44	ug/L		97
104) n-propylbenzene	8.449	91	602048	48.94	ug/L		100
105) 2-chlorotoluene	8.546	126	125793	49.11	ug/L		95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146708.d
Acq On : 17 Apr 2019 8:02 pm
Operator : JessicaP
Sample : BSD Inst : MS3D
Misc : MS33757,V3D6273,5,,,,1
ALS Vial : 54 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:31:22 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

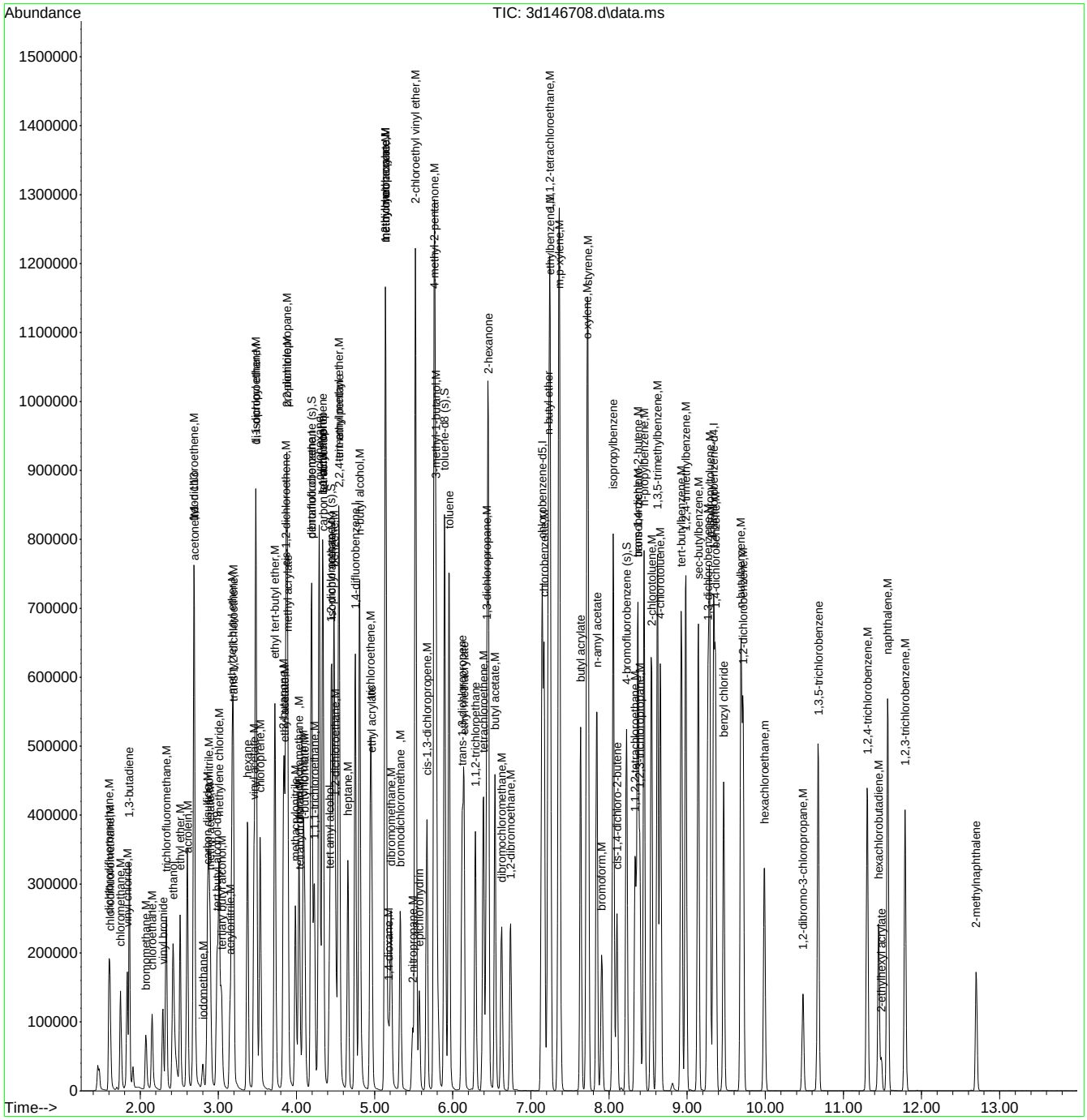
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.656	126	125344	48.88	ug/L	97
107) 1,3,5-trimethylbenzene	8.619	105	423422	48.79	ug/L	98
108) tert-butylbenzene	8.924	134	90635	46.86	ug/L	96
109) 1,2,4-trimethylbenzene	8.985	105	426516	49.83	ug/L	99
110) sec-butylbenzene	9.144	105	489890	48.34	ug/L	99
111) 1,3-dichlorobenzene	9.266	146	250981	49.72	ug/L	99
112) p-isopropyltoluene	9.290	119	426102	48.24	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	255722	49.92	ug/L	100
114) benzyl chloride	9.467	91	321500	53.82	ug/L	100
115) 1,2-dichlorobenzene	9.717	146	240190	49.81	ug/L	98
116) n-butylbenzene	9.686	92	195375	50.06	ug/L	98
117) 1,2-dibromo-3-chloropr...	10.479	75	33674	52.42	ug/L	97
118) 1,3,5-trichlorobenzene	10.680	180	169871	49.85	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	12228	7.42	ug/L	93
120) 1,2,4-trichlorobenzene	11.308	180	153626	52.07	ug/L	99
121) hexachlorobutadiene	11.448	225	54462	46.88	ug/L	98
122) naphthalene	11.564	128	470114	50.20	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	139089	51.46	ug/L	99
124) hexachloroethane	9.991	201	66446	53.48	ug/L	96
125) 2-methylnaphthalene	12.698	142	87565	22.76	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146708.d
Acq On : 17 Apr 2019 8:02 pm
Operator : JessicaP
Sample : BSD Inst : MS3D
Misc : MS33757,V3D6273,5,,,,1
ALS Vial : 54 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:31:22 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146737.d
Acq On : 18 Apr 2019 8:23 am
Operator : JessicaP
Sample : bs Inst : MS3D
Misc : MS34073,V3D6274,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:37:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	2.986	65	204089	500.00	ug/L		0.00
5) pentafluorobenzene	4.193	168	309999	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	434058	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	370566	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	171281	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.193	113	111777	50.74	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.48%				
53) 1,2-dichloroethane-d4 (s)	4.443	65	119447	49.01	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 98.02%				
75) toluene-d8 (s)	5.894	98	479531	50.95	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.90%				
99) 4-bromofluorobenzene (s)	8.223	95	163622	50.59	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.18%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	133678	253.03	ug/L		99
3) ethanol	2.419	45	285728	5832.34	ug/L		98
4) 1,4-dioxane	5.181	88	61928	1302.26	ug/L		98
6) chlorodifluoromethane	1.615	51	124760	44.25	ug/L		97
7) dichlorodifluoromethane	1.602	85	135141	43.26	ug/L		99
8) chloromethane	1.749	50	142029	48.88	ug/L		98
9) vinyl chloride	1.834	62	157481	53.48	ug/L		99
10) 1,3-butadiene	1.865	54	114529	47.03	ug/L		99
11) bromomethane	2.072	94	44397	40.30	ug/L		98
12) chloroethane	2.151	64	96276	52.86	ug/L		99
13) trichlorofluoromethane	2.334	101	184639	49.88	ug/L		99
14) vinyl bromide	2.291	106	82927	48.26	ug/L		98
15) ethyl ether	2.511	74	79167	57.75	ug/L		96
16) acrolein	2.608	56	28186	52.06	ug/L		98
17) freon 113	2.688	151	86891	42.85	ug/L		97
18) 1,1-dichloroethene	2.688	96	111097	54.02	ug/L		94
19) acetone	2.694	58	72156	233.43	ug/L	#	85
20) acetonitrile	2.877	41	272690	578.24	ug/L		98
21) iodomethane	2.803	142	50623	59.45	ug/L		99
22) carbon disulfide	2.858	76	291287	51.95	ug/L		99
23) methylene chloride	3.011	84	122724	53.18	ug/L		97
24) methyl acetate	2.901	43	142336	55.54	ug/L		99
25) methyl tert butyl ether	3.175	73	380813	55.36	ug/L		98
26) trans-1,2-dichloroethene	3.194	96	124754	53.96	ug/L		97
27) di-isopropyl ether	3.480	45	458560	59.23	ug/L		97
28) 2-butanone	3.834	72	96717	231.03	ug/L		98
29) 1,1-dichloroethane	3.486	63	221633	57.03	ug/L		99
30) chloroprene	3.535	53	206881	55.81	ug/L		98
31) acrylonitrile	3.151	53	70854	59.65	ug/L		97
32) hexane	3.376	56	91098	46.77	ug/L		97
33) vinyl acetate	3.456	86	35653	53.88	ug/L	#	74
34) ethyl tert-butyl ether	3.724	59	415997	56.54	ug/L		98
35) ethyl acetate	3.846	45	31728	60.98	ug/L	#	34
36) 2,2-dichloropropane	3.876	77	177051	52.83	ug/L		96
37) cis-1,2-dichloroethene	3.864	96	136534	54.89	ug/L		99
38) methyl acrylate	3.895	85	27041	55.37	ug/L	#	90
39) propionitrile	3.876	54	302653	587.80	ug/L		82
40) bromochloromethane	4.029	128	61904	55.94	ug/L	#	86
41) tetrahydrofuran	4.041	72	25533	54.87	ug/L		92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146737.d
Acq On : 18 Apr 2019 8:23 am
Operator : JessicaP
Sample : bs Inst : MS3D
Misc : MS34073,V3D6274,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:37:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	chloroform	4.084	85	131820	51.98	ug/L		96
43)	t-butyl formate	4.102	59	99611	47.17	ug/L		83
45)	methacrylonitrile	3.986	67	73079	59.13	ug/L		98
46)	1,1,1-trichloroethane	4.230	97	181362	52.00	ug/L		98
47)	cyclohexane	4.291	84	191374	51.71	ug/L	#	87
48)	1,1-dichloropropene	4.334	75	175402	54.51	ug/L		98
49)	iso-butyl alcohol	4.334	43	112294	546.69	ug/L		96
50)	carbon tetrachloride	4.340	117	149067	52.32	ug/L		98
51)	tert amyl alcohol	4.425	55	48320	274.85	ug/L		95
54)	n-butyl alcohol	4.809	56	397572	2842.17	ug/L		98
55)	2,2,4-trimethylpentane	4.547	57	323206	52.51	ug/L		98
56)	benzene	4.480	78	520654	55.70	ug/L		98
57)	tert-amyl methyl ether	4.541	87	95723	52.67	ug/L		91
58)	heptane	4.657	71	84855	53.37	ug/L		98
59)	isopropyl acetate	4.449	87	41281	53.53	ug/L	#	91
60)	1,2-dichloroethane	4.498	62	157818	50.22	ug/L		94
61)	trichloroethene	4.949	130	133164	52.92	ug/L		99
62)	ethyl acrylate	4.961	55	223463	58.22	ug/L		97
63)	2-nitropropane	5.486	41	36787	53.32	ug/L		94
64)	2-chloroethyl vinyl ether	5.522	63	476541	303.53	ug/L		97
65)	methyl methacrylate	5.144	69	160499	52.59	ug/L		97
66)	1,2-dichloropropane	5.138	63	132757	58.69	ug/L		99
67)	dibromomethane	5.211	93	72677	54.75	ug/L		97
68)	methylcyclohexane	5.138	83	193958	49.02	ug/L		98
69)	bromodichloromethane	5.327	83	155274	56.12	ug/L		100
70)	epichlorohydrin	5.571	57	108914	291.14	ug/L		98
71)	cis-1,3-dichloropropene	5.669	75	203655	56.05	ug/L		98
72)	4-methyl-2-pentanone	5.766	58	303101	234.81	ug/L		99
73)	3-methyl-1-butanol	5.785	55	224204	1129.27	ug/L		96
76)	toluene	5.955	92	325303	54.14	ug/L		100
77)	trans-1,3-dichloropropene	6.120	75	181882	54.13	ug/L		99
78)	ethyl methacrylate	6.144	69	203850	57.92	ug/L		98
79)	1,1,2-trichloroethane	6.290	83	95436	56.11	ug/L		96
80)	tetrachloroethene	6.394	164	111782	53.09	ug/L		97
81)	1,3-dichloropropane	6.437	76	201399	56.68	ug/L		96
82)	2-hexanone	6.455	58	315094	236.26	ug/L		99
83)	butyl acetate	6.540	56	126059	59.84	ug/L		100
84)	dibromochloromethane	6.626	129	120443	59.78	ug/L		97
85)	1,2-dibromoethane	6.742	107	157038	58.16	ug/L		100
86)	n-butyl ether	7.223	57	566980	59.00	ug/L		98
87)	chlorobenzene	7.168	112	334856	52.34	ug/L		98
88)	1,1,1,2-tetrachloroethane	7.242	131	114669	54.73	ug/L		100
89)	ethylbenzene	7.248	91	601043	54.63	ug/L		99
90)	m,p-xylene	7.363	106	461091	106.72	ug/L		100
91)	o-xylene	7.717	106	220272	52.91	ug/L		99
92)	styrene	7.729	104	380759	54.52	ug/L		93
93)	bromoform	7.906	173	88744	59.39	ug/L		97
94)	butyl acrylate	7.638	55	306593	61.89	ug/L		98
95)	n-amyl acetate	7.845	70	125297	58.43	ug/L		96
96)	isopropylbenzene	8.052	105	561671	53.45	ug/L		99
97)	cis-1,4-dichloro-2-butene	8.101	88	51148	45.38	ug/L		91
100)	bromobenzene	8.369	156	142976	52.62	ug/L		98
101)	1,1,2,2-tetrachloroethane	8.333	83	171086	57.58	ug/L		98
102)	trans-1,4-dichloro-2-b...	8.369	53	43168	48.70	ug/L		95
103)	1,2,3-trichloropropane	8.394	110	54114	52.60	ug/L		99
104)	n-propylbenzene	8.449	91	642342	54.89	ug/L		99
105)	2-chlorotoluene	8.540	126	129919	53.32	ug/L		90

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146737.d
Acq On : 18 Apr 2019 8:23 am
Operator : JessicaP
Sample : bs Inst : MS3D
Misc : MS34073,V3D6274,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:37:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

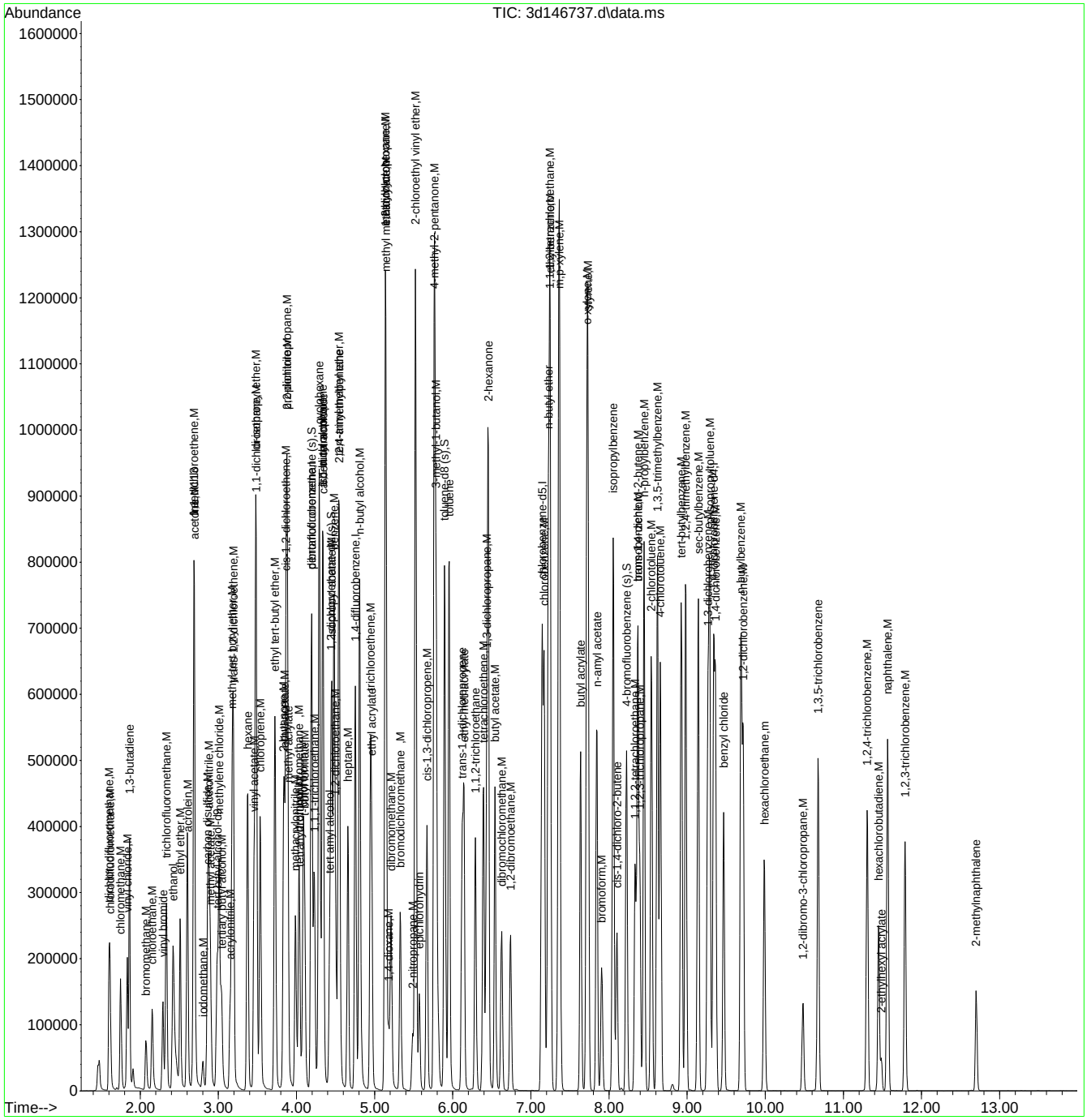
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.656	126	127787	52.39	ug/L	92
107) 1,3,5-trimethylbenzene	8.619	105	441820	53.52	ug/L	99
108) tert-butylbenzene	8.924	134	96495	52.45	ug/L	97
109) 1,2,4-trimethylbenzene	8.979	105	438813	53.89	ug/L	100
110) sec-butylbenzene	9.144	105	525337	54.49	ug/L	99
111) 1,3-dichlorobenzene	9.266	146	250431	52.15	ug/L	99
112) p-isopropyltoluene	9.290	119	450330	53.60	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	255419	52.41	ug/L	100
114) benzyl chloride	9.467	91	304270	53.54	ug/L	100
115) 1,2-dichlorobenzene	9.717	146	240110	52.34	ug/L	97
116) n-butylbenzene	9.686	92	207964	56.01	ug/L	97
117) 1,2-dibromo-3-chloropr...	10.479	75	32321	52.89	ug/L	95
118) 1,3,5-trichlorobenzene	10.674	180	170846	52.70	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	12821	8.18	ug/L	98
120) 1,2,4-trichlorobenzene	11.302	180	148751	53.00	ug/L	98
121) hexachlorobutadiene	11.448	225	55541	50.26	ug/L	98
122) naphthalene	11.564	128	440590	49.46	ug/L	99
123) 1,2,3-trichlorobenzene	11.789	180	131188	51.03	ug/L	99
124) hexachloroethane	9.991	201	67372	57.00	ug/L	97
125) 2-methylnaphthalene	12.698	142	73951	20.20	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146737.d
Acq On : 18 Apr 2019 8:23 am
Operator : JessicaP
Sample : bs Inst : MS3D
Misc : MS34073,V3D6274,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:37:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146738.d
Acq On : 18 Apr 2019 8:56 am
Operator : JessicaP
Sample : bsd Inst : MS3D
Misc : MS34073,V3D6274,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 09:15:01 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	2.987	65	206748	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	312280	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.755	114	431183	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	364071	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	170717	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.194	113	109735	49.45	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.90%				
53) 1,2-dichloroethane-d4 (s)	4.444	65	116538	48.13	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 96.26%				
75) toluene-d8 (s)	5.895	98	478974	51.80	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.60%				
99) 4-bromofluorobenzene (s)	8.223	95	160471	49.78	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.56%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	135374	252.95	ug/L		98
3) ethanol	2.420	45	292391	5891.58	ug/L		98
4) 1,4-dioxane	5.181	88	62954	1306.81	ug/L		99
6) chlorodifluoromethane	1.615	51	107453	37.83	ug/L		97
7) dichlorodifluoromethane	1.603	85	114249	36.30	ug/L		100
8) chloromethane	1.749	50	126232	43.13	ug/L		98
9) vinyl chloride	1.834	62	133046	44.85	ug/L		99
10) 1,3-butadiene	1.859	54	96325	39.27	ug/L		97
11) bromomethane	2.072	94	44974	40.53	ug/L		100
12) chloroethane	2.151	64	83091	45.29	ug/L		97
13) trichlorofluoromethane	2.334	101	157612	42.27	ug/L		99
14) vinyl bromide	2.292	106	73054	42.20	ug/L		99
15) ethyl ether	2.511	74	76986	55.74	ug/L		98
16) acrolein	2.609	56	28904	53.00	ug/L		100
17) freon 113	2.688	151	74727	36.58	ug/L		96
18) 1,1-dichloroethene	2.688	96	95903	46.29	ug/L		97
19) acetone	2.694	58	71296	228.97	ug/L	#	83
20) acetonitrile	2.877	41	273498	575.72	ug/L		98
21) iodomethane	2.804	142	53565	62.44	ug/L		98
22) carbon disulfide	2.859	76	251250	44.49	ug/L		99
23) methylene chloride	3.011	84	113398	48.78	ug/L		95
24) methyl acetate	2.901	43	140950	54.60	ug/L		99
25) methyl tert butyl ether	3.176	73	367177	52.99	ug/L		98
26) trans-1,2-dichloroethene	3.194	96	108895	46.76	ug/L		95
27) di-isopropyl ether	3.480	45	427074	54.76	ug/L		97
28) 2-butanone	3.834	72	97075	230.19	ug/L		98
29) 1,1-dichloroethane	3.486	63	197340	50.40	ug/L		99
30) chloroprene	3.535	53	176394	47.23	ug/L		100
31) acrylonitrile	3.151	53	71429	59.70	ug/L		98
32) hexane	3.377	56	77566	39.53	ug/L		98
33) vinyl acetate	3.456	86	34664	52.01	ug/L	#	79
34) ethyl tert-butyl ether	3.724	59	399083	53.85	ug/L		98
35) ethyl acetate	3.846	45	29366	56.03	ug/L	#	38
36) 2,2-dichloropropane	3.877	77	156825	46.46	ug/L		99
37) cis-1,2-dichloroethene	3.864	96	124325	49.62	ug/L		95
38) methyl acrylate	3.889	85	27137	55.16	ug/L	#	67
39) propionitrile	3.877	54	307188	592.25	ug/L		82
40) bromochloromethane	4.029	128	58571	52.54	ug/L		86
41) tetrahydrofuran	4.041	72	26355	56.22	ug/L		91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146738.d
Acq On : 18 Apr 2019 8:56 am
Operator : JessicaP
Sample : bsd Inst : MS3D
Misc : MS34073,V3D6274,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 09:15:01 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) chloroform	4.084	85	121888	47.71	ug/L		99
43) t-butyl formate	4.102	59	98766	46.43	ug/L		87
45) methacrylonitrile	3.986	67	71184	57.18	ug/L		99
46) 1,1,1-trichloroethane	4.230	97	159318	45.35	ug/L		99
47) cyclohexane	4.291	84	161979	43.44	ug/L	#	82
48) 1,1-dichloropropene	4.334	75	153361	47.31	ug/L		100
49) iso-butyl alcohol	4.334	43	120513	582.42	ug/L		98
50) carbon tetrachloride	4.340	117	130773	45.56	ug/L		96
51) tert amyl alcohol	4.425	55	49297	278.36	ug/L		98
54) n-butyl alcohol	4.809	56	405852	2920.71	ug/L		98
55) 2,2,4-trimethylpentane	4.547	57	276348	45.19	ug/L		98
56) benzene	4.480	78	469721	50.58	ug/L		100
57) tert-amyl methyl ether	4.541	87	91518	50.70	ug/L		94
58) heptane	4.657	71	71131	45.04	ug/L		98
59) isopropyl acetate	4.450	87	40816	53.28	ug/L		95
60) 1,2-dichloroethane	4.498	62	148971	47.72	ug/L		96
61) trichloroethene	4.950	130	119116	47.66	ug/L		97
62) ethyl acrylate	4.962	55	223103	58.52	ug/L		97
63) 2-nitropropane	5.486	41	40045	58.43	ug/L		94
64) 2-chloroethyl vinyl ether	5.523	63	464438	297.79	ug/L		98
65) methyl methacrylate	5.139	69	152358	50.25	ug/L		94
66) 1,2-dichloropropane	5.139	63	122023	54.30	ug/L		99
67) dibromomethane	5.212	93	69954	53.05	ug/L		98
68) methylcyclohexane	5.139	83	166872	42.45	ug/L		97
69) bromodichloromethane	5.328	83	148744	54.12	ug/L		99
70) epichlorohydrin	5.571	57	109945	295.85	ug/L		99
71) cis-1,3-dichloropropene	5.669	75	193026	53.48	ug/L		96
72) 4-methyl-2-pentanone	5.766	58	301758	235.33	ug/L		97
73) 3-methyl-1-butanol	5.785	55	228430	1158.23	ug/L		96
76) toluene	5.955	92	292621	49.57	ug/L		99
77) trans-1,3-dichloropropene	6.120	75	176391	53.43	ug/L		98
78) ethyl methacrylate	6.144	69	198503	57.40	ug/L		98
79) 1,1,2-trichloroethane	6.291	83	92902	55.59	ug/L		96
80) tetrachloroethene	6.394	164	98184	47.47	ug/L		99
81) 1,3-dichloropropane	6.437	76	193395	55.39	ug/L		96
82) 2-hexanone	6.455	58	317772	242.51	ug/L		99
83) butyl acetate	6.541	56	125062	60.43	ug/L		99
84) dibromochloromethane	6.626	129	114735	57.96	ug/L		98
85) 1,2-dibromoethane	6.742	107	152345	57.43	ug/L		99
86) n-butyl ether	7.224	57	519641	55.04	ug/L		99
87) chlorobenzene	7.169	112	308576	49.09	ug/L		97
88) 1,1,1,2-tetrachloroethane	7.242	131	105612	51.31	ug/L		98
89) ethylbenzene	7.248	91	540324	49.99	ug/L		99
90) m,p-xylene	7.364	106	415911	97.98	ug/L		100
91) o-xylene	7.717	106	203564	49.77	ug/L		98
92) styrene	7.730	104	352185	51.33	ug/L		94
93) bromoform	7.906	173	88316	60.16	ug/L		99
94) butyl acrylate	7.638	55	301173	61.88	ug/L		97
95) n-amyl acetate	7.845	70	122325	58.06	ug/L		97
96) isopropylbenzene	8.053	105	504698	48.89	ug/L		98
97) cis-1,4-dichloro-2-butene	8.101	88	52491	47.40	ug/L		91
100) bromobenzene	8.370	156	135124	49.90	ug/L		99
101) 1,1,2,2-tetrachloroethane	8.333	83	167677	56.62	ug/L		98
102) trans-1,4-dichloro-2-b...	8.370	53	43087	48.77	ug/L		94
103) 1,2,3-trichloropropane	8.394	110	53773	52.44	ug/L		97
104) n-propylbenzene	8.449	91	573847	49.20	ug/L		99
105) 2-chlorotoluene	8.546	126	119078	49.04	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146738.d
Acq On : 18 Apr 2019 8:56 am
Operator : JessicaP
Sample : bsd Inst : MS3D
Misc : MS34073,V3D6274,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 09:15:01 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

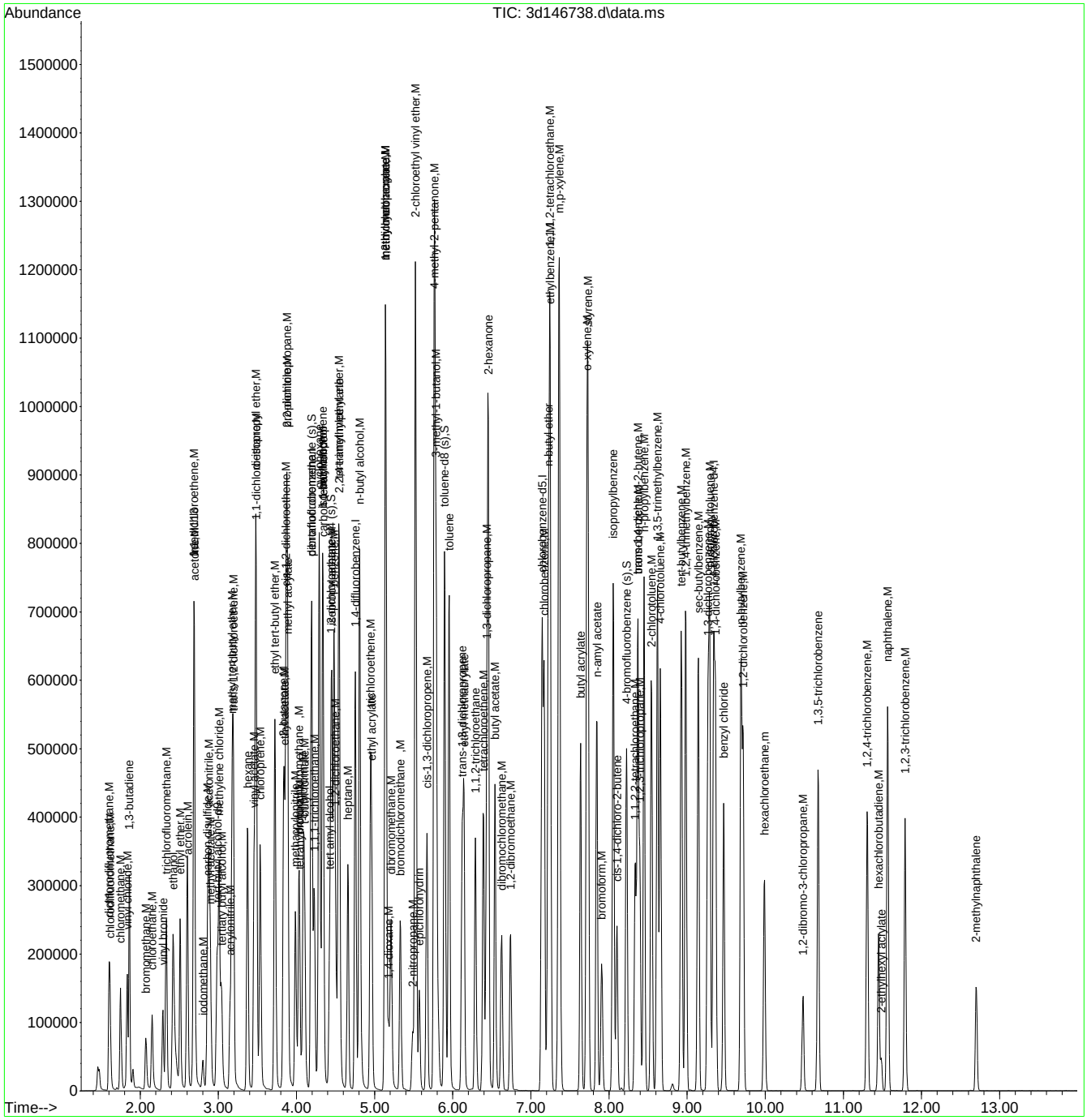
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.656	126	120629	49.61	ug/L	99
107) 1,3,5-trimethylbenzene	8.620	105	403226	49.01	ug/L	99
108) tert-butylbenzene	8.924	134	86439	47.14	ug/L	98
109) 1,2,4-trimethylbenzene	8.985	105	403756	49.75	ug/L	99
110) sec-butylbenzene	9.144	105	468049	48.71	ug/L	98
111) 1,3-dichlorobenzene	9.266	146	237094	49.54	ug/L	99
112) p-isopropyltoluene	9.290	119	405150	48.38	ug/L	98
113) 1,4-dichlorobenzene	9.363	146	239232	49.25	ug/L	98
114) benzyl chloride	9.467	91	297391	52.50	ug/L	100
115) 1,2-dichlorobenzene	9.717	146	227637	49.79	ug/L	97
116) n-butylbenzene	9.686	92	187028	50.54	ug/L	98
117) 1,2-dibromo-3-chloropr...	10.479	75	32977	54.14	ug/L	93
118) 1,3,5-trichlorobenzene	10.674	180	159224	49.28	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	12381	7.93	ug/L	96
120) 1,2,4-trichlorobenzene	11.302	180	143722	51.38	ug/L	98
121) hexachlorobutadiene	11.448	225	50510	45.86	ug/L	99
122) naphthalene	11.564	128	447535	50.40	ug/L	100
123) 1,2,3-trichlorobenzene	11.790	180	129663	50.60	ug/L	99
124) hexachloroethane	9.991	201	61529	52.23	ug/L	96
125) 2-methylnaphthalene	12.698	142	78976	21.65	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146738.d
Acq On : 18 Apr 2019 8:56 am
Operator : JessicaP
Sample : bsd Inst : MS3D
Misc : MS34073,V3D6274,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 09:15:01 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146712.d
Acq On : 17 Apr 2019 9:42 pm
Operator : JessicaP
Sample : JC86495-2ms Inst : MS3D
Misc : MS34069,V3D6273,5,,,,20
ALS Vial : 58 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:35:54 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.987	65	222895	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	324091	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	450319	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	384440	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	182147	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.194	113	118092	51.28	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.56%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	125302	49.55	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 99.10%			
75) toluene-d8 (s)	5.895	98	501043	51.31	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.62%			
99) 4-bromofluorobenzene (s)	8.223	95	170034	49.44	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.88%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.041	59	147080	254.91	ug/L	98
3) ethanol	2.420	45	308545	5766.70	ug/L	98
4) 1,4-dioxane	5.181	88	68111	1311.44	ug/L	97
6) chlorodifluoromethane	1.615	51	150983	51.22	ug/L	98
7) dichlorodifluoromethane	1.603	85	199479	61.08	ug/L	100
8) chloromethane	1.749	50	159916	52.64	ug/L	99
9) vinyl chloride	1.834	62	178724	58.06	ug/L	100
10) 1,3-butadiene	1.865	54	135824	53.35	ug/L	99
11) bromomethane	2.072	94	52415	45.51	ug/L	99
12) chloroethane	2.151	64	101635	53.38	ug/L	99
13) trichlorofluoromethane	2.334	101	200202	51.74	ug/L	98
14) vinyl bromide	2.292	106	85628	47.66	ug/L	98
15) ethyl ether	2.511	74	83435	58.21	ug/L	95
16) acrolein	2.609	56	35722	63.11	ug/L	97
17) freon 113	2.688	151	97048	45.78	ug/L	98
18) 1,1-dichloroethene	2.688	96	139694	64.97	ug/L	97
19) acetone	2.694	58	76510	236.76	ug/L	87
20) acetonitrile	2.883	41	287622	583.38	ug/L	98
21) iodomethane	2.804	142	43078	48.39	ug/L	98
22) carbon disulfide	2.859	76	306978	52.37	ug/L	98
23) methylene chloride	3.011	84	125233	51.90	ug/L	96
24) methyl acetate	2.901	43	146959	54.85	ug/L	100
25) methyl tert butyl ether	3.176	73	396153	55.09	ug/L	98
26) trans-1,2-dichloroethene	3.194	96	125564	51.95	ug/L	98
27) di-isopropyl ether	3.480	45	460750	56.93	ug/L	98
28) 2-butanone	3.834	72	103341	236.12	ug/L	96
29) 1,1-dichloroethane	3.486	63	274676	67.60	ug/L	99
30) chloroprene	3.535	53	203015	52.38	ug/L	99
31) acrylonitrile	3.151	53	73980	59.58	ug/L	98
32) hexane	3.377	56	100857	49.53	ug/L	97
33) vinyl acetate	3.456	86	38047	55.00	ug/L	94
34) ethyl tert-butyl ether	3.724	59	425292	55.29	ug/L	99
35) ethyl acetate	3.846	45	30025	55.20	ug/L #	42
36) 2,2-dichloropropane	3.877	77	176399	50.35	ug/L	98
37) cis-1,2-dichloroethene	3.864	96	252226	96.99	ug/L	96
38) methyl acrylate	3.889	85	28745	56.30	ug/L #	68
39) propionitrile	3.877	54	321389	597.05	ug/L	82
40) bromochloromethane	4.029	128	63212	54.64	ug/L	88
41) tetrahydrofuran	4.041	72	28353	58.28	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146712.d
Acq On : 17 Apr 2019 9:42 pm
Operator : JessicaP
Sample : JC86495-2ms Inst : MS3D
Misc : MS34069,V3D6273,5,,,,20
ALS Vial : 58 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:35:54 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) chloroform	4.084	85	132389	49.93	ug/L		98
43) t-butyl formate	4.102	59	101701	46.07	ug/L		87
45) methacrylonitrile	3.986	67	76149	58.94	ug/L		99
46) 1,1,1-trichloroethane	4.230	97	532749	146.11	ug/L		99
47) cyclohexane	4.291	84	204534	52.86	ug/L		94
48) 1,1-dichloropropene	4.334	75	173374	51.54	ug/L		99
49) iso-butyl alcohol	4.334	43	129118	601.26	ug/L		97
50) carbon tetrachloride	4.340	117	153318	51.47	ug/L		99
51) tert amyl alcohol	4.425	55	52600	286.19	ug/L		97
54) n-butyl alcohol	4.809	56	433252	2985.40	ug/L		98
55) 2,2,4-trimethylpentane	4.547	57	334586	52.39	ug/L		96
56) benzene	4.480	78	515730	53.18	ug/L		100
57) tert-amyl methyl ether	4.541	87	98328	52.15	ug/L		95
58) heptane	4.657	71	86302	52.32	ug/L		98
59) isopropyl acetate	4.450	87	42917	53.64	ug/L	#	85
60) 1,2-dichloroethane	4.498	62	159342	48.88	ug/L		95
61) trichloroethene	4.950	130	232487	89.06	ug/L		98
62) ethyl acrylate	4.962	55	235258	59.08	ug/L		99
63) 2-nitropropane	5.486	41	40816	57.02	ug/L		96
64) 2-chloroethyl vinyl ether	5.523	63	119166	73.16	ug/L		97
65) methyl methacrylate	5.139	69	166891	52.71	ug/L		96
66) 1,2-dichloropropane	5.139	63	131778	56.15	ug/L		98
67) dibromomethane	5.212	93	75360	54.72	ug/L		99
68) methylcyclohexane	5.139	83	202813	49.40	ug/L		97
69) bromodichloromethane	5.328	83	159562	55.59	ug/L		98
70) epichlorohydrin	5.571	57	115753	298.25	ug/L		98
71) cis-1,3-dichloropropene	5.669	75	208465	55.30	ug/L		95
72) 4-methyl-2-pentanone	5.766	58	324097	242.01	ug/L		98
73) 3-methyl-1-butanol	5.785	55	242573	1177.67	ug/L		95
76) toluene	5.955	92	325645	52.24	ug/L		99
77) trans-1,3-dichloropropene	6.120	75	186242	53.43	ug/L		99
78) ethyl methacrylate	6.144	69	214087	58.63	ug/L		99
79) 1,1,2-trichloroethane	6.291	83	98642	55.90	ug/L		96
80) tetrachloroethene	6.394	164	115107	52.70	ug/L		98
81) 1,3-dichloropropane	6.431	76	205791	55.82	ug/L		97
82) 2-hexanone	6.455	58	333846	241.28	ug/L		98
83) butyl acetate	6.541	56	131951	60.38	ug/L		100
84) dibromochloromethane	6.626	129	123687	59.17	ug/L		97
85) 1,2-dibromoethane	6.742	107	162192	57.90	ug/L		99
86) n-butyl ether	7.224	57	561516	56.32	ug/L		99
87) chlorobenzene	7.169	112	336298	50.66	ug/L		98
88) 1,1,1,2-tetrachloroethane	7.242	131	117613	54.11	ug/L		99
89) ethylbenzene	7.248	91	598144	52.40	ug/L		99
90) m,p-xylene	7.364	106	460545	102.74	ug/L		100
91) o-xylene	7.717	106	220884	51.14	ug/L		99
92) styrene	7.730	104	383693	52.96	ug/L		96
93) bromoform	7.906	173	95361	61.52	ug/L		100
94) butyl acrylate	7.638	55	318147	61.91	ug/L		98
95) n-amyl acetate	7.845	70	131682	59.19	ug/L		96
96) isopropylbenzene	8.053	105	562639	51.61	ug/L		99
97) cis-1,4-dichloro-2-butene	8.101	88	55799	47.72	ug/L		92
100) bromobenzene	8.370	156	148040	51.23	ug/L		96
101) 1,1,2,2-tetrachloroethane	8.333	83	179452	56.79	ug/L		99
102) trans-1,4-dichloro-2-b...	8.370	53	45655	48.44	ug/L		89
103) 1,2,3-trichloropropane	8.394	110	57022	52.12	ug/L		99
104) n-propylbenzene	8.449	91	638245	51.29	ug/L		99
105) 2-chlorotoluene	8.540	126	130041	50.19	ug/L		91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146712.d
Acq On : 17 Apr 2019 9:42 pm
Operator : JessicaP
Sample : JC86495-2ms Inst : MS3D
Misc : MS34069,V3D6273,5,,,,20
ALS Vial : 58 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:35:54 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

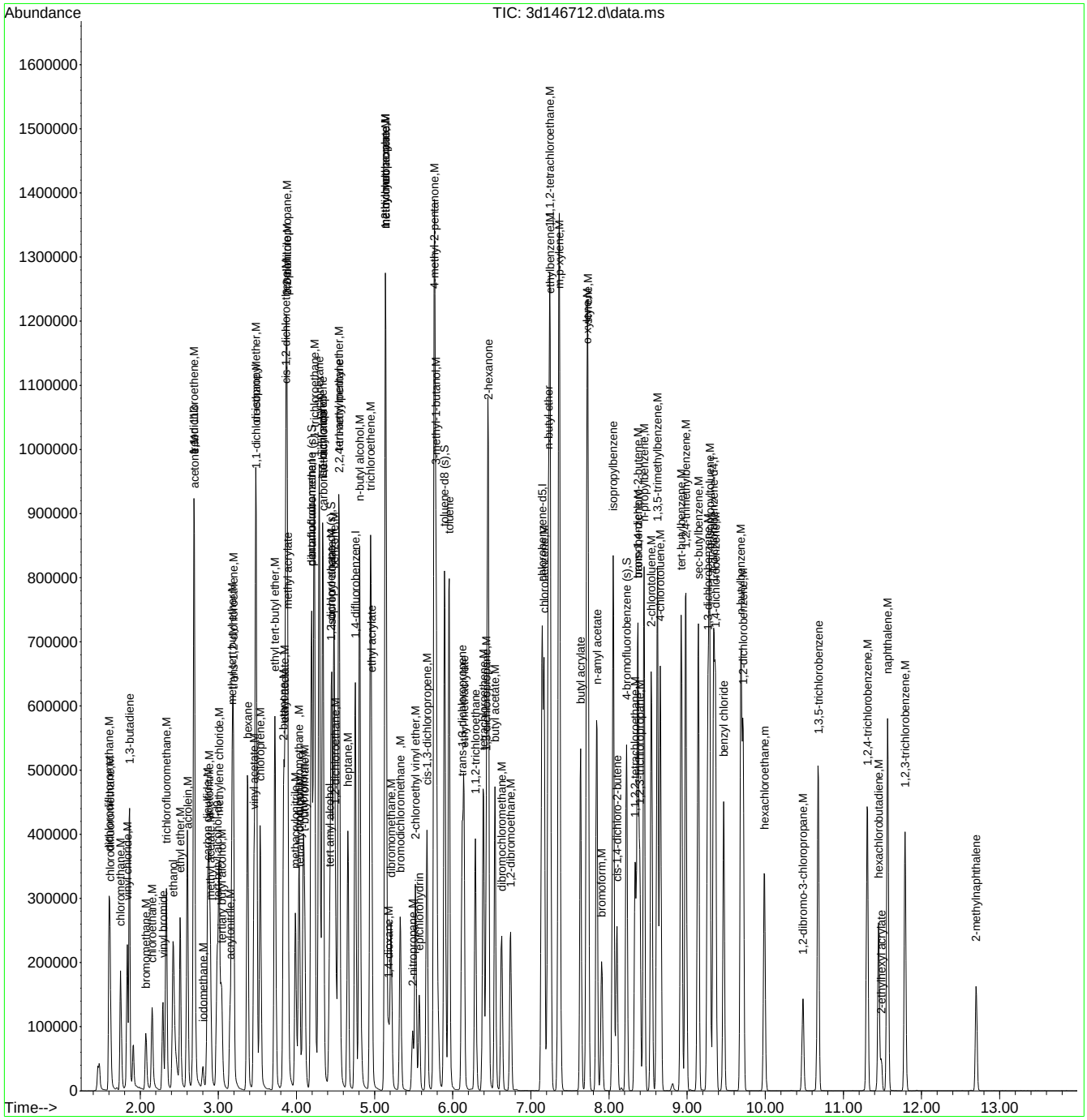
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.656	126	131137	50.55	ug/L	97
107) 1,3,5-trimethylbenzene	8.620	105	443791	50.55	ug/L	99
108) tert-butylbenzene	8.924	134	97050	49.60	ug/L	96
109) 1,2,4-trimethylbenzene	8.985	105	444289	51.31	ug/L	99
110) sec-butylbenzene	9.144	105	526299	51.33	ug/L	100
111) 1,3-dichlorobenzene	9.266	146	257055	50.34	ug/L	100
112) p-isopropyltoluene	9.290	119	451170	50.49	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	260257	50.22	ug/L	99
114) benzyl chloride	9.467	91	323556	53.54	ug/L	99
115) 1,2-dichlorobenzene	9.717	146	249320	51.11	ug/L	98
116) n-butylbenzene	9.686	92	205513	52.05	ug/L	97
117) 1,2-dibromo-3-chloropr...	10.479	75	34617	53.27	ug/L	97
118) 1,3,5-trichlorobenzene	10.680	180	174011	50.48	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	13141	7.89	ug/L	95
120) 1,2,4-trichlorobenzene	11.308	180	155208	52.00	ug/L	99
121) hexachlorobutadiene	11.448	225	58313	49.62	ug/L	97
122) naphthalene	11.564	128	473509	49.98	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	139929	51.18	ug/L	99
124) hexachloroethane	9.991	201	68639	54.61	ug/L	96
125) 2-methylnaphthalene	12.698	142	82315	21.15	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146712.d
Acq On : 17 Apr 2019 9:42 pm
Operator : JessicaP
Sample : JC86495-2ms Inst : MS3D
Misc : MS34069,V3D6273,5,,,,20
ALS Vial : 58 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:35:54 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146713.d
Acq On : 17 Apr 2019 10:07 pm
Operator : JessicaP
Sample : JC86495-2msd Inst : MS3D
Misc : MS34069,V3D6273,5,,,,20
ALS Vial : 59 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:53:44 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	2.986	65	225617	500.00	ug/L		0.00
5) pentafluorobenzene	4.187	168	325511	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	451731	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	388586	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	184132	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.193	113	116256	50.26	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.52%				
53) 1,2-dichloroethane-d4 (s)	4.443	65	122197	48.17	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 96.34%				
75) toluene-d8 (s)	5.894	98	501314	50.79	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.58%				
99) 4-bromofluorobenzene (s)	8.223	95	171259	49.26	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.52%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	141720	242.66	ug/L		100
3) ethanol	2.419	45	297441	5492.10	ug/L		98
4) 1,4-dioxane	5.181	88	66857	1271.76	ug/L		99
6) chlorodifluoromethane	1.615	51	141439	47.77	ug/L		99
7) dichlorodifluoromethane	1.602	85	183491	55.94	ug/L		100
8) chloromethane	1.749	50	153193	50.21	ug/L		98
9) vinyl chloride	1.834	62	166209	53.76	ug/L		100
10) 1,3-butadiene	1.859	54	126425	49.44	ug/L		98
11) bromomethane	2.072	94	55263	47.78	ug/L		97
12) chloroethane	2.151	64	94224	49.27	ug/L		99
13) trichlorofluoromethane	2.334	101	186567	48.00	ug/L		97
14) vinyl bromide	2.285	106	80489	44.60	ug/L		99
15) ethyl ether	2.511	74	78253	54.36	ug/L		98
16) acrolein	2.608	56	33944	59.71	ug/L		99
17) freon 113	2.688	151	92597	43.49	ug/L		98
18) 1,1-dichloroethene	2.688	96	133221	61.69	ug/L		99
19) acetone	2.694	58	72523	223.44	ug/L	#	86
20) acetonitrile	2.877	41	276697	558.78	ug/L		98
21) iodomethane	2.803	142	53429	59.75	ug/L		99
22) carbon disulfide	2.858	76	291771	49.56	ug/L		98
23) methylene chloride	3.011	84	116528	48.09	ug/L		98
24) methyl acetate	2.895	43	140282	52.13	ug/L		97
25) methyl tert butyl ether	3.175	73	372684	51.60	ug/L		100
26) trans-1,2-dichloroethene	3.194	96	118805	48.94	ug/L		98
27) di-isopropyl ether	3.480	45	432753	53.23	ug/L		98
28) 2-butanone	3.834	72	100038	227.57	ug/L		100
29) 1,1-dichloroethane	3.480	63	263785	64.64	ug/L		99
30) chloroprene	3.535	53	193240	49.64	ug/L		98
31) acrylonitrile	3.145	53	71423	57.27	ug/L		98
32) hexane	3.370	56	94910	46.40	ug/L		98
33) vinyl acetate	3.456	86	36170	52.06	ug/L		96
34) ethyl tert-butyl ether	3.724	59	402312	52.08	ug/L		98
35) ethyl acetate	3.846	45	29287	53.60	ug/L	#	43
36) 2,2-dichloropropane	3.876	77	168344	47.84	ug/L		99
37) cis-1,2-dichloroethene	3.864	96	244153	93.48	ug/L		98
38) methyl acrylate	3.889	85	26222	51.14	ug/L	#	62
39) propionitrile	3.876	54	312126	577.31	ug/L		83
40) bromochloromethane	4.029	128	60723	52.26	ug/L		89
41) tetrahydrofuran	4.041	72	26510	54.25	ug/L		92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146713.d
Acq On : 17 Apr 2019 10:07 pm
Operator : JessicaP
Sample : JC86495-2msd Inst : MS3D
Misc : MS34069,V3D6273,5,,,,20
ALS Vial : 59 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:53:44 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) chloroform	4.084	85	125341	47.07	ug/L		98
43) t-butyl formate	4.102	59	96213	43.39	ug/L		89
45) methacrylonitrile	3.986	67	72857	56.15	ug/L		97
46) 1,1,1-trichloroethane	4.224	97	518889	141.69	ug/L		98
47) cyclohexane	4.291	84	193566	49.81	ug/L		94
48) 1,1-dichloropropene	4.334	75	165704	49.04	ug/L		99
49) iso-butyl alcohol	4.334	43	122595	568.40	ug/L		97
50) carbon tetrachloride	4.340	117	145717	48.70	ug/L		99
51) tert amyl alcohol	4.425	55	50659	274.42	ug/L		96
54) n-butyl alcohol	4.809	56	424229	2914.09	ug/L		98
55) 2,2,4-trimethylpentane	4.547	57	318759	49.76	ug/L		95
56) benzene	4.480	78	491177	50.49	ug/L		99
57) tert-amyl methyl ether	4.541	87	93168	49.26	ug/L		95
58) heptane	4.657	71	83020	50.18	ug/L		95
59) isopropyl acetate	4.449	87	41396	51.58	ug/L	#	91
60) 1,2-dichloroethane	4.498	62	150527	46.03	ug/L		97
61) trichloroethene	4.949	130	229339	87.58	ug/L		99
62) ethyl acrylate	4.962	55	224267	56.15	ug/L		100
63) 2-nitropropane	5.486	41	38679	53.87	ug/L		91
64) 2-chloroethyl vinyl ether	5.522	63	92498	56.61	ug/L		98
65) methyl methacrylate	5.138	69	160264	50.46	ug/L		97
66) 1,2-dichloropropane	5.138	63	126517	53.74	ug/L		97
67) dibromomethane	5.212	93	70981	51.38	ug/L		100
68) methylcyclohexane	5.138	83	195727	47.53	ug/L		98
69) bromodichloromethane	5.327	83	150086	52.13	ug/L		99
70) epichlorohydrin	5.571	57	111671	286.83	ug/L		99
71) cis-1,3-dichloropropene	5.669	75	199711	52.82	ug/L		96
72) 4-methyl-2-pentanone	5.766	58	308245	229.46	ug/L		97
73) 3-methyl-1-butanol	5.785	55	237435	1149.13	ug/L		96
76) toluene	5.955	92	306570	48.66	ug/L		99
77) trans-1,3-dichloropropene	6.120	75	179037	50.81	ug/L		99
78) ethyl methacrylate	6.144	69	202169	54.78	ug/L		98
79) 1,1,2-trichloroethane	6.291	83	94536	53.00	ug/L		94
80) tetrachloroethene	6.394	164	111786	50.63	ug/L		97
81) 1,3-dichloropropane	6.431	76	195813	52.55	ug/L		97
82) 2-hexanone	6.455	58	320223	228.97	ug/L		98
83) butyl acetate	6.541	56	125276	56.71	ug/L		99
84) dibromochloromethane	6.626	129	118816	56.23	ug/L		99
85) 1,2-dibromoethane	6.736	107	154807	54.68	ug/L		100
86) n-butyl ether	7.223	57	534688	53.06	ug/L		99
87) chlorobenzene	7.168	112	323193	48.17	ug/L		98
88) 1,1,1,2-tetrachloroethane	7.242	131	111953	50.96	ug/L		99
89) ethylbenzene	7.248	91	567698	49.21	ug/L		99
90) m,p-xylene	7.364	106	443716	97.93	ug/L		98
91) o-xylene	7.717	106	213411	48.88	ug/L		99
92) styrene	7.729	104	366731	50.08	ug/L		94
93) bromoform	7.906	173	91072	58.13	ug/L		100
94) butyl acrylate	7.638	55	305017	58.72	ug/L		98
95) n-amyl acetate	7.845	70	125989	56.03	ug/L		95
96) isopropylbenzene	8.052	105	539084	48.92	ug/L		99
97) cis-1,4-dichloro-2-butene	8.101	88	54521	46.13	ug/L		92
100) bromobenzene	8.369	156	140417	48.07	ug/L		99
101) 1,1,2,2-tetrachloroethane	8.333	83	171196	53.60	ug/L		99
102) trans-1,4-dichloro-2-b...	8.369	53	44441	46.64	ug/L		93
103) 1,2,3-trichloropropane	8.394	110	54858	49.60	ug/L		98
104) n-propylbenzene	8.449	91	617021	49.05	ug/L		99
105) 2-chlorotoluene	8.546	126	126877	48.44	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146713.d
Acq On : 17 Apr 2019 10:07 pm
Operator : JessicaP
Sample : JC86495-2msd Inst : MS3D
Misc : MS34069,V3D6273,5,,,,20
ALS Vial : 59 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:53:44 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

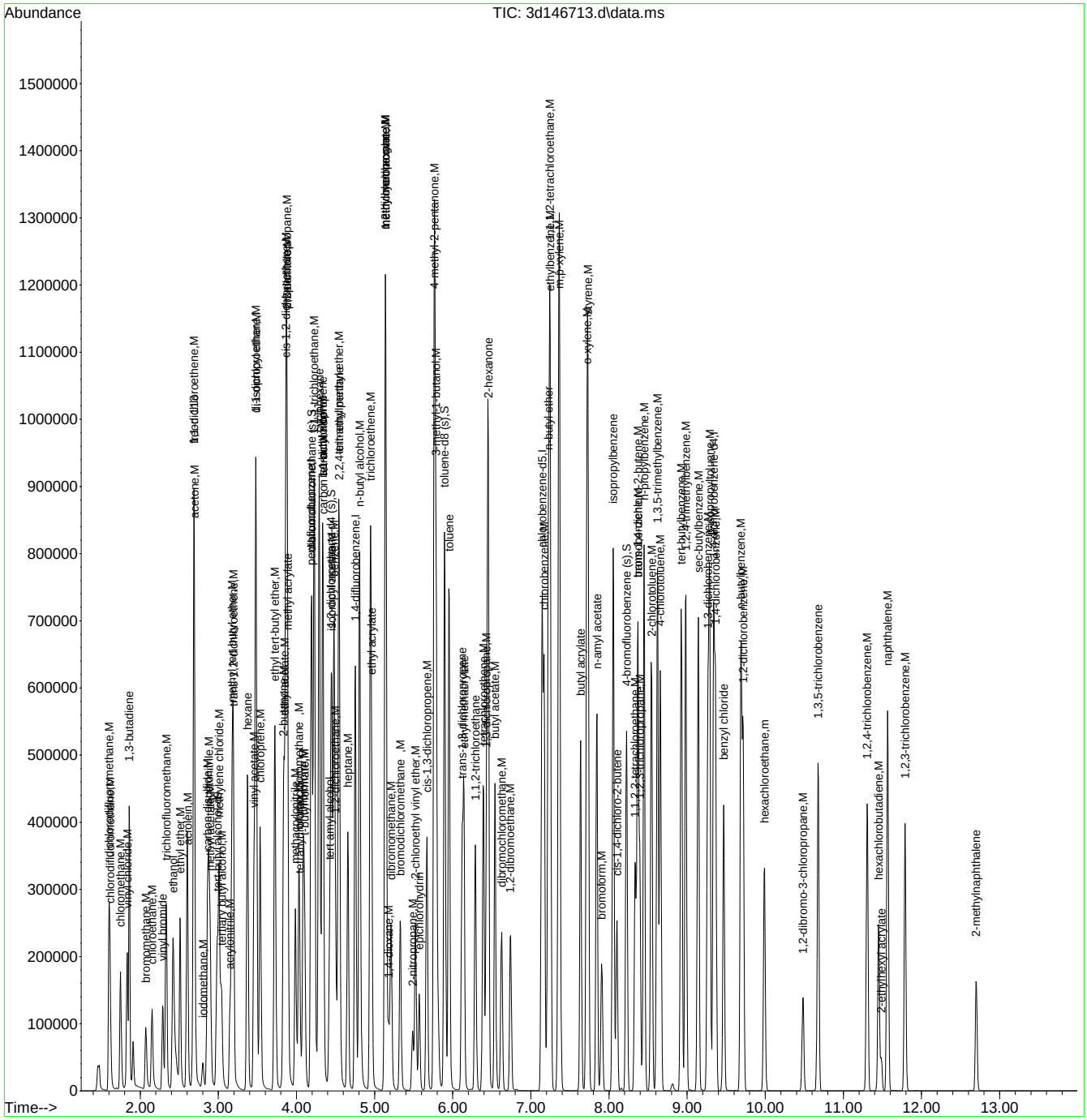
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.656	126	125187	47.74	ug/L	95
107) 1,3,5-trimethylbenzene	8.619	105	426916	48.11	ug/L	98
108) tert-butylbenzene	8.924	134	93657	47.35	ug/L	98
109) 1,2,4-trimethylbenzene	8.985	105	427425	48.83	ug/L	100
110) sec-butylbenzene	9.144	105	508475	49.06	ug/L	98
111) 1,3-dichlorobenzene	9.266	146	247421	47.93	ug/L	99
112) p-isopropyltoluene	9.290	119	437254	48.41	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	251509	48.01	ug/L	98
114) benzyl chloride	9.467	91	307797	50.38	ug/L	100
115) 1,2-dichlorobenzene	9.717	146	237548	48.17	ug/L	99
116) n-butylbenzene	9.686	92	200143	50.14	ug/L	99
117) 1,2-dibromo-3-chloropr...	10.479	75	33707	51.31	ug/L	96
118) 1,3,5-trichlorobenzene	10.674	180	167794	48.15	ug/L	98
119) 2-ethylhexyl acrylate	11.485	70	12807	7.60	ug/L	94
120) 1,2,4-trichlorobenzene	11.302	180	150176	49.77	ug/L	98
121) hexachlorobutadiene	11.448	225	55944	47.09	ug/L	99
122) naphthalene	11.564	128	463985	48.45	ug/L	100
123) 1,2,3-trichlorobenzene	11.790	180	135248	48.94	ug/L	99
124) hexachloroethane	9.991	201	66745	52.53	ug/L	95
125) 2-methylnaphthalene	12.698	142	83760	21.29	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146713.d
Acq On : 17 Apr 2019 10:07 pm
Operator : JessicaP
Sample : JC86495-2msd Inst : MS3D
Misc : MS34069,V3D6273,5,,,,20
ALS Vial : 59 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 08:53:44 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146746.d
Acq On : 18 Apr 2019 12:33 pm
Operator : JessicaP
Sample : JC86494-4ms Inst : MS3D
Misc : MS34073,V3D6274,5,,,,10
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 12:51:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.986	65	213629	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	310584	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	437128	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	377179	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	178906	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.194	113	112437	50.95	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.90%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	117734	47.97	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 95.94%			
75) toluene-d8 (s)	5.894	98	487129	50.85	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.70%			
99) 4-bromofluorobenzene (s)	8.223	95	168149	49.78	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.56%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.041	59	154962	280.22	ug/L	99
3) ethanol	2.420	45	312720	6098.24	ug/L	98
4) 1,4-dioxane	5.181	88	69877	1403.80	ug/L	100
6) chlorodifluoromethane	1.615	51	149114	52.79	ug/L	99
7) dichlorodifluoromethane	1.603	85	188941	60.37	ug/L	100
8) chloromethane	1.749	50	159663	54.85	ug/L	99
9) vinyl chloride	1.834	62	167405	56.75	ug/L	99
10) 1,3-butadiene	1.865	54	139301	57.10	ug/L	98
11) bromomethane	2.072	94	34538	31.30	ug/L	97
12) chloroethane	2.151	64	98191	53.81	ug/L	98
13) trichlorofluoromethane	2.334	101	188741	50.90	ug/L	99
14) vinyl bromide	2.285	106	79918	46.42	ug/L	99
15) ethyl ether	2.511	74	84392	61.44	ug/L	94
16) acrolein	2.609	56	35072	64.66	ug/L	98
17) freon 113	2.688	151	94503	46.51	ug/L	98
18) 1,1-dichloroethene	2.688	96	119079	57.79	ug/L	99
19) acetone	2.694	58	79015	255.14	ug/L	88
20) acetonitrile	2.877	41	297267	629.17	ug/L	99
21) iodomethane	2.804	142	40750	47.76	ug/L	97
22) carbon disulfide	2.858	76	313158	55.75	ug/L	98
23) methylene chloride	3.011	84	126666	54.78	ug/L	97
24) methyl acetate	2.901	43	150341	58.55	ug/L	98
25) methyl tert butyl ether	3.175	73	410893	59.62	ug/L	99
26) trans-1,2-dichloroethene	3.194	96	125867	54.34	ug/L	95
27) di-isopropyl ether	3.480	45	476596	61.45	ug/L	97
28) 2-butanone	3.834	72	106484	253.88	ug/L	98
29) 1,1-dichloroethane	3.486	63	231528	59.46	ug/L	99
30) chloroprene	3.535	53	209003	56.27	ug/L	97
31) acrylonitrile	3.151	53	76769	64.51	ug/L	98
32) hexane	3.371	56	90936	46.60	ug/L	95
33) vinyl acetate	3.456	86	38059	57.41	ug/L #	85
34) ethyl tert-butyl ether	3.724	59	440282	59.73	ug/L	99
35) ethyl acetate	3.846	45	32429	62.21	ug/L #	44
36) 2,2-dichloropropane	3.877	77	150403	44.80	ug/L	99
37) cis-1,2-dichloroethene	3.864	96	153825	61.73	ug/L	98
38) methyl acrylate	3.889	85	28982	59.23	ug/L #	56
39) propionitrile	3.877	54	332891	645.31	ug/L	82
40) bromochloromethane	4.029	128	64212	57.92	ug/L #	84
41) tetrahydrofuran	4.041	72	28591	61.32	ug/L	90

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146746.d
Acq On : 18 Apr 2019 12:33 pm
Operator : JessicaP
Sample : JC86494-4ms Inst : MS3D
Misc : MS34073,V3D6274,5,,,,10
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 12:51:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) chloroform	4.084	85	134715	53.02	ug/L		100
43) t-butyl formate	4.102	59	56062	26.50	ug/L		81
45) methacrylonitrile	3.986	67	79172	63.94	ug/L		99
46) 1,1,1-trichloroethane	4.230	97	184075	52.68	ug/L		99
47) cyclohexane	4.291	84	199799	53.88	ug/L		92
48) 1,1-dichloropropene	4.334	75	178751	55.45	ug/L		98
49) iso-butyl alcohol	4.334	43	125651	610.57	ug/L		98
50) carbon tetrachloride	4.340	117	153957	53.93	ug/L		98
51) tert amyl alcohol	4.425	55	52782	299.67	ug/L		95
54) n-butyl alcohol	4.809	56	443111	3145.47	ug/L		99
55) 2,2,4-trimethylpentane	4.547	57	317951	51.29	ug/L		99
56) benzene	4.480	78	532756	56.59	ug/L		99
57) tert-amyl methyl ether	4.541	87	102296	55.90	ug/L		96
58) heptane	4.657	71	74485	46.52	ug/L		96
59) isopropyl acetate	4.450	87	45132	58.11	ug/L	#	86
60) 1,2-dichloroethane	4.498	62	166088	52.48	ug/L		95
61) trichloroethene	4.950	130	160608	63.38	ug/L		99
62) ethyl acrylate	4.962	55	243566	63.02	ug/L		98
63) 2-nitropropane	5.486	41	39622	57.02	ug/L		92
64) 2-chloroethyl vinyl ether	5.571	63	3594	2.27	ug/L		60
65) methyl methacrylate	5.145	69	174050	56.63	ug/L		95
66) 1,2-dichloropropane	5.139	63	136048	59.72	ug/L		99
67) dibromomethane	5.212	93	76713	57.38	ug/L		99
68) methylcyclohexane	5.139	83	206372	51.79	ug/L		98
69) bromodichloromethane	5.327	83	161785	58.07	ug/L		98
70) epichlorohydrin	5.571	57	106440	282.53	ug/L		98
71) cis-1,3-dichloropropene	5.669	75	205079	56.05	ug/L		97
72) 4-methyl-2-pentanone	5.766	58	335134	257.81	ug/L		99
73) 3-methyl-1-butanol	5.785	55	251396	1257.34	ug/L		96
76) toluene	5.955	92	333558	54.54	ug/L		100
77) trans-1,3-dichloropropene	6.120	75	187564	54.84	ug/L		100
78) ethyl methacrylate	6.144	69	220133	61.45	ug/L		99
79) 1,1,2-trichloroethane	6.291	83	101715	58.75	ug/L		95
80) tetrachloroethene	6.394	164	306513	143.03	ug/L		99
81) 1,3-dichloropropane	6.437	76	214226	59.23	ug/L		95
82) 2-hexanone	6.455	58	352098	259.37	ug/L		99
83) butyl acetate	6.541	56	135742	63.31	ug/L		99
84) dibromochloromethane	6.626	129	127213	62.03	ug/L		98
85) 1,2-dibromoethane	6.742	107	166771	60.69	ug/L		98
86) n-butyl ether	7.223	57	585981	59.91	ug/L		98
87) chlorobenzene	7.169	112	344465	52.89	ug/L		96
88) 1,1,1,2-tetrachloroethane	7.242	131	118729	55.67	ug/L		99
89) ethylbenzene	7.248	91	616257	55.03	ug/L		99
90) m,p-xylene	7.364	106	470730	107.04	ug/L		99
91) o-xylene	7.717	106	227009	53.57	ug/L		99
92) styrene	7.729	104	394428	55.49	ug/L		93
93) bromoform	7.906	173	95838	63.02	ug/L		99
94) butyl acrylate	7.638	55	334451	66.33	ug/L		97
95) n-amyl acetate	7.845	70	134197	61.48	ug/L		98
96) isopropylbenzene	8.053	105	576493	53.90	ug/L		99
97) cis-1,4-dichloro-2-butene	8.101	88	52930	46.14	ug/L		96
100) bromobenzene	8.370	156	149290	52.60	ug/L		99
101) 1,1,2,2-tetrachloroethane	8.333	83	186929	60.23	ug/L		99
102) trans-1,4-dichloro-2-b...	8.370	53	43681	47.18	ug/L		92
103) 1,2,3-trichloropropane	8.394	110	58655	54.58	ug/L		99
104) n-propylbenzene	8.449	91	655195	53.60	ug/L		99
105) 2-chlorotoluene	8.540	126	132235	51.96	ug/L		89

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146746.d
Acq On : 18 Apr 2019 12:33 pm
Operator : JessicaP
Sample : JC86494-4ms Inst : MS3D
Misc : MS34073,V3D6274,5,,,,10
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 12:51:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

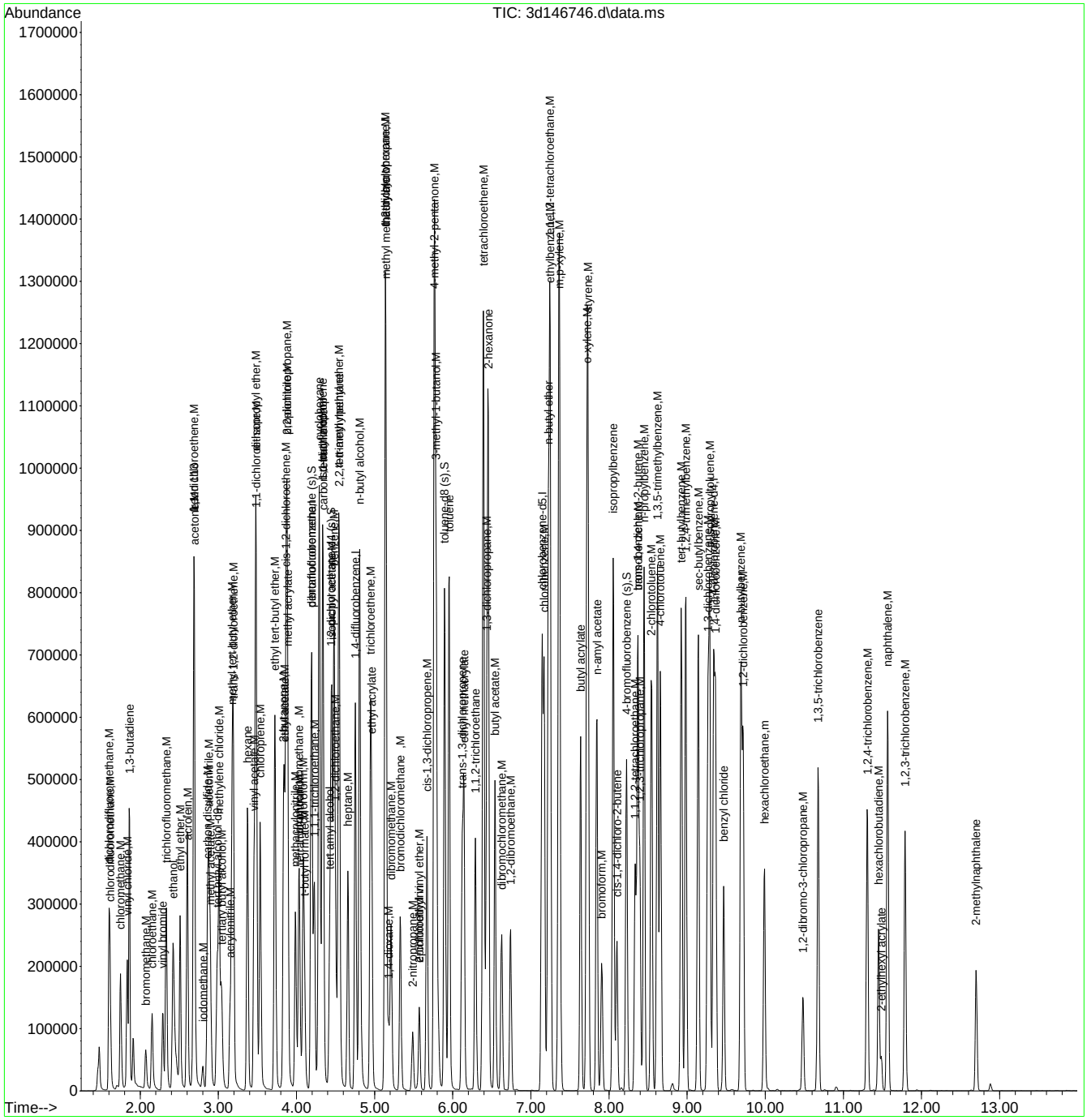
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.656	126	132403	51.96	ug/L	93
107) 1,3,5-trimethylbenzene	8.620	105	454532	52.71	ug/L	99
108) tert-butylbenzene	8.924	134	98805	51.42	ug/L	96
109) 1,2,4-trimethylbenzene	8.985	105	457481	53.79	ug/L	99
110) sec-butylbenzene	9.144	105	535289	53.15	ug/L	99
111) 1,3-dichlorobenzene	9.266	146	261146	52.07	ug/L	99
112) p-isopropyltoluene	9.290	119	455237	51.87	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	267655	52.58	ug/L	98
114) benzyl chloride	9.467	91	229603	38.68	ug/L	99
115) 1,2-dichlorobenzene	9.717	146	251660	52.52	ug/L	98
116) n-butylbenzene	9.686	92	208390	53.73	ug/L	98
117) 1,2-dibromo-3-chloropr...	10.479	75	36543	57.25	ug/L	98
118) 1,3,5-trichlorobenzene	10.674	180	174981	51.68	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	13973	8.54	ug/L	88
120) 1,2,4-trichlorobenzene	11.308	180	157146	53.60	ug/L	98
121) hexachlorobutadiene	11.448	225	57468	49.79	ug/L	98
122) naphthalene	11.564	128	506127	54.39	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	142964	53.24	ug/L	97
124) hexachloroethane	9.991	201	69400	56.22	ug/L	97
125) 2-methylnaphthalene	12.698	142	96313	25.19	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146746.d
Acq On : 18 Apr 2019 12:33 pm
Operator : JessicaP
Sample : JC86494-4ms Inst : MS3D
Misc : MS34073,V3D6274,5,,,,10
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 12:51:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146747.d
Acq On : 18 Apr 2019 12:58 pm
Operator : JessicaP
Sample : JC86494-4msd Inst : MS3D
Misc : MS34073,V3D6274,5,,,,10
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 14:24:09 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.986	65	207906	500.00	ug/L	0.00
5) pentafluorobenzene	4.187	168	310186	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	436280	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	378041	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	175101	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.193	113	112364	50.98	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.96%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	119334	48.71	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 97.42%			
75) toluene-d8 (s)	5.894	98	484438	50.45	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.90%			
99) 4-bromofluorobenzene (s)	8.223	95	164856	49.86	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.72%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.041	59	133836	248.68	ug/L	97
3) ethanol	2.419	45	269297	5396.02	ug/L	99
4) 1,4-dioxane	5.181	88	60637	1251.70	ug/L	99
6) chlorodifluoromethane	1.615	51	132796	47.07	ug/L	98
7) dichlorodifluoromethane	1.603	85	168273	53.83	ug/L	99
8) chloromethane	1.749	50	140927	48.47	ug/L	99
9) vinyl chloride	1.834	62	153273	52.02	ug/L	98
10) 1,3-butadiene	1.859	54	119859	49.19	ug/L	99
11) bromomethane	2.072	94	39124	35.50	ug/L	98
12) chloroethane	2.151	64	87981	48.28	ug/L	99
13) trichlorofluoromethane	2.334	101	171526	46.31	ug/L	99
14) vinyl bromide	2.291	106	71394	41.52	ug/L	97
15) ethyl ether	2.511	74	74133	54.04	ug/L	97
16) acrolein	2.608	56	30555	56.40	ug/L	99
17) freon 113	2.688	151	81561	40.20	ug/L	97
18) 1,1-dichloroethene	2.688	96	102692	49.90	ug/L	99
19) acetone	2.694	58	68373	221.06	ug/L	91
20) acetonitrile	2.877	41	254911	540.21	ug/L	99
21) iodomethane	2.803	142	52539	61.66	ug/L	97
22) carbon disulfide	2.858	76	271580	48.41	ug/L	98
23) methylene chloride	3.011	84	111872	48.45	ug/L	97
24) methyl acetate	2.901	43	132191	51.55	ug/L	97
25) methyl tert butyl ether	3.175	73	356092	51.74	ug/L	97
26) trans-1,2-dichloroethene	3.194	96	108904	47.08	ug/L	95
27) di-isopropyl ether	3.480	45	414465	53.50	ug/L	97
28) 2-butanone	3.834	72	91481	218.39	ug/L	96
29) 1,1-dichloroethane	3.486	63	205186	52.76	ug/L	98
30) chloroprene	3.535	53	180382	48.63	ug/L	99
31) acrylonitrile	3.151	53	66101	55.62	ug/L	98
32) hexane	3.370	56	77782	39.91	ug/L	98
33) vinyl acetate	3.456	86	32846	49.61	ug/L #	79
34) ethyl tert-butyl ether	3.724	59	383238	52.06	ug/L	99
35) ethyl acetate	3.846	45	27667	53.14	ug/L #	36
36) 2,2-dichloropropane	3.876	77	129256	38.55	ug/L	98
37) cis-1,2-dichloroethene	3.864	96	136361	54.79	ug/L	97
38) methyl acrylate	3.895	85	24930	51.02	ug/L #	85
39) propionitrile	3.876	54	286989	557.05	ug/L	83
40) bromochloromethane	4.029	128	56463	50.99	ug/L	88
41) tetrahydrofuran	4.041	72	23999	51.54	ug/L	85

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146747.d
Acq On : 18 Apr 2019 12:58 pm
Operator : JessicaP
Sample : JC86494-4msd Inst : MS3D
Misc : MS34073,V3D6274,5,,,,10
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 14:24:09 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	chloroform	4.084	85	116541	45.92	ug/L		98
43)	t-butyl formate	4.102	59	47485	22.47	ug/L		83
45)	methacrylonitrile	3.986	67	67371	54.48	ug/L		97
46)	1,1,1-trichloroethane	4.230	97	160145	45.89	ug/L		99
47)	cyclohexane	4.291	84	177340	47.89	ug/L		91
48)	1,1-dichloropropene	4.334	75	154486	47.98	ug/L		98
49)	iso-butyl alcohol	4.334	43	113374	551.62	ug/L		97
50)	carbon tetrachloride	4.340	117	134648	47.23	ug/L		98
51)	tert amyl alcohol	4.425	55	45992	261.45	ug/L		96
54)	n-butyl alcohol	4.809	56	379917	2702.12	ug/L		99
55)	2,2,4-trimethylpentane	4.547	57	278997	45.09	ug/L		98
56)	benzene	4.480	78	463679	49.35	ug/L		99
57)	tert-amyl methyl ether	4.541	87	88634	48.53	ug/L		92
58)	heptane	4.657	71	64177	40.16	ug/L		97
59)	isopropyl acetate	4.449	87	38792	50.04	ug/L	#	89
60)	1,2-dichloroethane	4.498	62	143466	45.42	ug/L		96
61)	trichloroethene	4.949	130	142927	56.52	ug/L		100
62)	ethyl acrylate	4.962	55	208600	54.08	ug/L		98
63)	2-nitropropane	5.486	41	34501	49.75	ug/L		89
64)	2-chloroethyl vinyl ether	5.571	63	3000	1.90	ug/L		69
65)	methyl methacrylate	5.144	69	149202	48.64	ug/L		97
66)	1,2-dichloropropane	5.138	63	118608	52.17	ug/L		99
67)	dibromomethane	5.212	93	67384	50.50	ug/L		98
68)	methylcyclohexane	5.138	83	178600	44.91	ug/L		97
69)	bromodichloromethane	5.327	83	141585	50.92	ug/L		99
70)	epichlorohydrin	5.571	57	91652	243.75	ug/L		96
71)	cis-1,3-dichloropropene	5.669	75	178542	48.89	ug/L		97
72)	4-methyl-2-pentanone	5.766	58	288720	222.53	ug/L		96
73)	3-methyl-1-butanol	5.785	55	212762	1066.18	ug/L		94
76)	toluene	5.955	92	288902	47.13	ug/L		99
77)	trans-1,3-dichloropropene	6.120	75	163203	47.61	ug/L		99
78)	ethyl methacrylate	6.144	69	190130	52.95	ug/L		99
79)	1,1,2-trichloroethane	6.291	83	88200	50.83	ug/L		94
80)	tetrachloroethene	6.394	164	295242	137.46	ug/L		99
81)	1,3-dichloropropane	6.437	76	184779	50.97	ug/L		95
82)	2-hexanone	6.455	58	300093	220.56	ug/L		98
83)	butyl acetate	6.541	56	117012	54.45	ug/L		98
84)	dibromochloromethane	6.626	129	110332	53.68	ug/L		97
85)	1,2-dibromoethane	6.742	107	145029	52.65	ug/L		98
86)	n-butyl ether	7.223	57	504252	51.43	ug/L		98
87)	chlorobenzene	7.168	112	299108	45.82	ug/L		98
88)	1,1,1,2-tetrachloroethane	7.242	131	104424	48.86	ug/L		99
89)	ethylbenzene	7.248	91	532170	47.41	ug/L		99
90)	m,p-xylene	7.364	106	404968	91.88	ug/L		99
91)	o-xylene	7.717	106	196993	46.38	ug/L		99
92)	styrene	7.729	104	341134	47.88	ug/L		95
93)	bromoform	7.906	173	83443	54.74	ug/L		100
94)	butyl acrylate	7.638	55	285716	56.54	ug/L		98
95)	n-amyl acetate	7.845	70	116154	53.09	ug/L		97
96)	isopropylbenzene	8.052	105	496128	46.28	ug/L		98
97)	cis-1,4-dichloro-2-butene	8.101	88	45807	39.84	ug/L		95
100)	bromobenzene	8.369	156	130367	46.93	ug/L		99
101)	1,1,2,2-tetrachloroethane	8.333	83	159687	52.57	ug/L		98
102)	trans-1,4-dichloro-2-b...	8.369	53	37022	40.86	ug/L		89
103)	1,2,3-trichloropropane	8.394	110	51531	48.99	ug/L		99
104)	n-propylbenzene	8.449	91	564051	47.15	ug/L		99
105)	2-chlorotoluene	8.540	126	115312	46.30	ug/L		90

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146747.d
Acq On : 18 Apr 2019 12:58 pm
Operator : JessicaP
Sample : JC86494-4msd Inst : MS3D
Misc : MS34073,V3D6274,5,,,,10
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 14:24:09 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

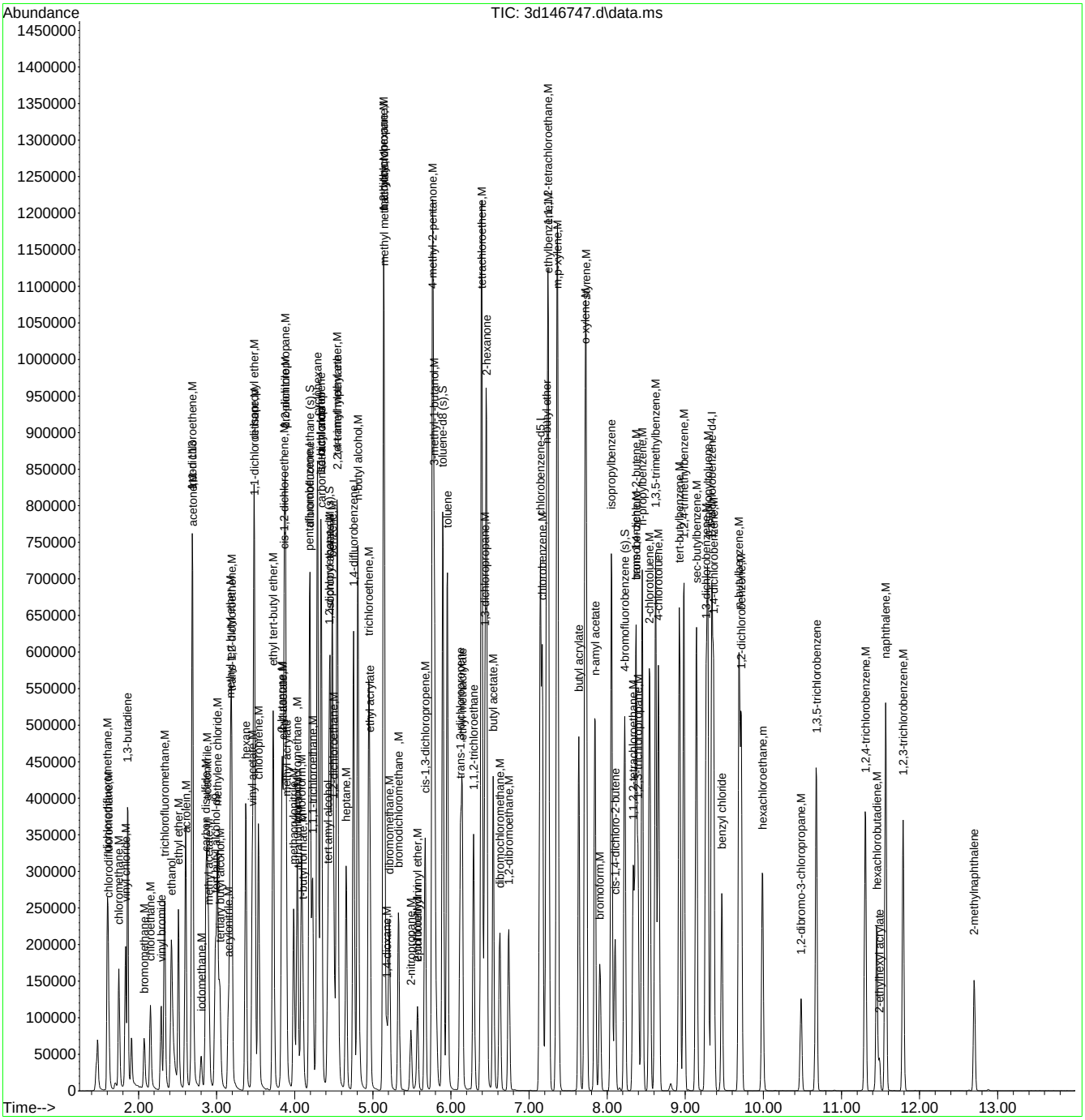
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.656	126	113672	45.58	ug/L	96
107) 1,3,5-trimethylbenzene	8.619	105	391979	46.45	ug/L	99
108) tert-butylbenzene	8.924	134	84599	44.98	ug/L	98
109) 1,2,4-trimethylbenzene	8.985	105	391361	47.02	ug/L	98
110) sec-butylbenzene	9.144	105	461870	46.86	ug/L	98
111) 1,3-dichlorobenzene	9.266	146	226931	46.23	ug/L	99
112) p-isopropyltoluene	9.290	119	395667	46.06	ug/L	98
113) 1,4-dichlorobenzene	9.363	146	231572	46.48	ug/L	99
114) benzyl chloride	9.467	91	195411	33.64	ug/L	100
115) 1,2-dichlorobenzene	9.717	146	217482	46.37	ug/L	98
116) n-butylbenzene	9.686	92	177097	46.66	ug/L	98
117) 1,2-dibromo-3-chloropr...	10.479	75	30580	48.95	ug/L	94
118) 1,3,5-trichlorobenzene	10.680	180	150559	45.43	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	11688	7.30	ug/L	98
120) 1,2,4-trichlorobenzene	11.308	180	134931	47.03	ug/L	99
121) hexachlorobutadiene	11.454	225	50090	44.34	ug/L	96
122) naphthalene	11.564	128	424897	46.65	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	124221	47.26	ug/L	99
124) hexachloroethane	9.991	201	60573	50.13	ug/L	97
125) 2-methylnaphthalene	12.698	142	77912	20.82	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146747.d
Acq On : 18 Apr 2019 12:58 pm
Operator : JessicaP
Sample : JC86494-4msd Inst : MS3D
Misc : MS34073,V3D6274,5,,,,10
ALS Vial : 14 Sample Multiplier: 1

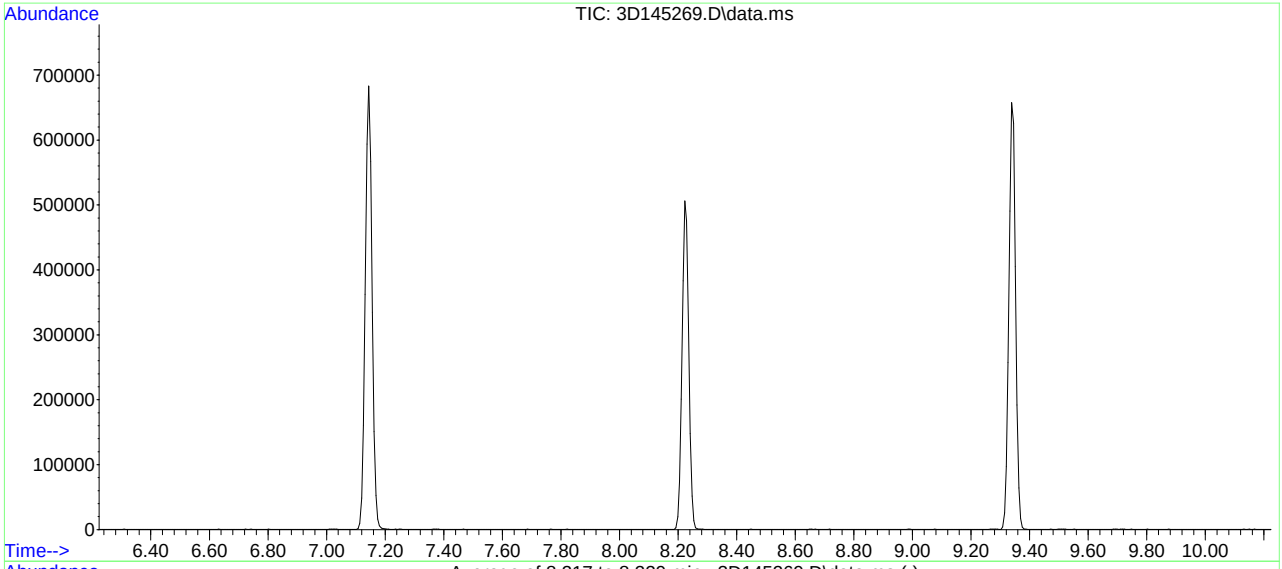
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 14:24:09 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



SW-846 Method 8260

Data File : C:\msdchem\1\DATA\V3D6212\3D145269.D Vial: 1
Acq On : 7 Mar 2019 5:57 pm Operator: juntaep
Sample : bfb Inst : MS3D
Misc : MS32815,V3D6212,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019



AutoFind: Scans 1145, 1146, 1147; Background Corrected with Scan 1138

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.6	16616	PASS
75	95	30	60	47.2	44517	PASS
95	95	100	100	100.0	94402	PASS
96	95	5	9	6.6	6251	PASS
173	174	0.00	2	1.2	981	PASS
174	95	50	120	88.6	83682	PASS
175	174	5	9	7.5	6242	PASS
176	174	95	101	96.7	80954	PASS
177	176	5	9	6.7	5431	PASS

3D145269.D M3D6212.M Fri Mar 08 16:35:43 2019 3D

Average of 8.217 to 8.229 min.: 3D145269.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	929	50.10	16616	64.05	266	77.95	389
37.10	4485	51.10	5184	67.05	252	78.95	1810
38.10	3824	52.05	271	68.10	8574	80.00	528
39.10	1481	55.05	252	69.10	8750	80.95	1906
40.05	134	56.10	1178	70.05	642	81.95	407
43.00	33	57.10	2129	72.05	486	86.05	84
44.00	408	58.00	38	73.10	3702	87.00	3819
45.10	770	60.05	819	74.10	14942	88.00	3677
47.10	1123	61.10	4107	75.10	44517	90.95	260
48.05	543	62.10	3916	76.10	3753	92.10	2353
49.10	3618	63.10	2995	77.00	570	93.05	3478

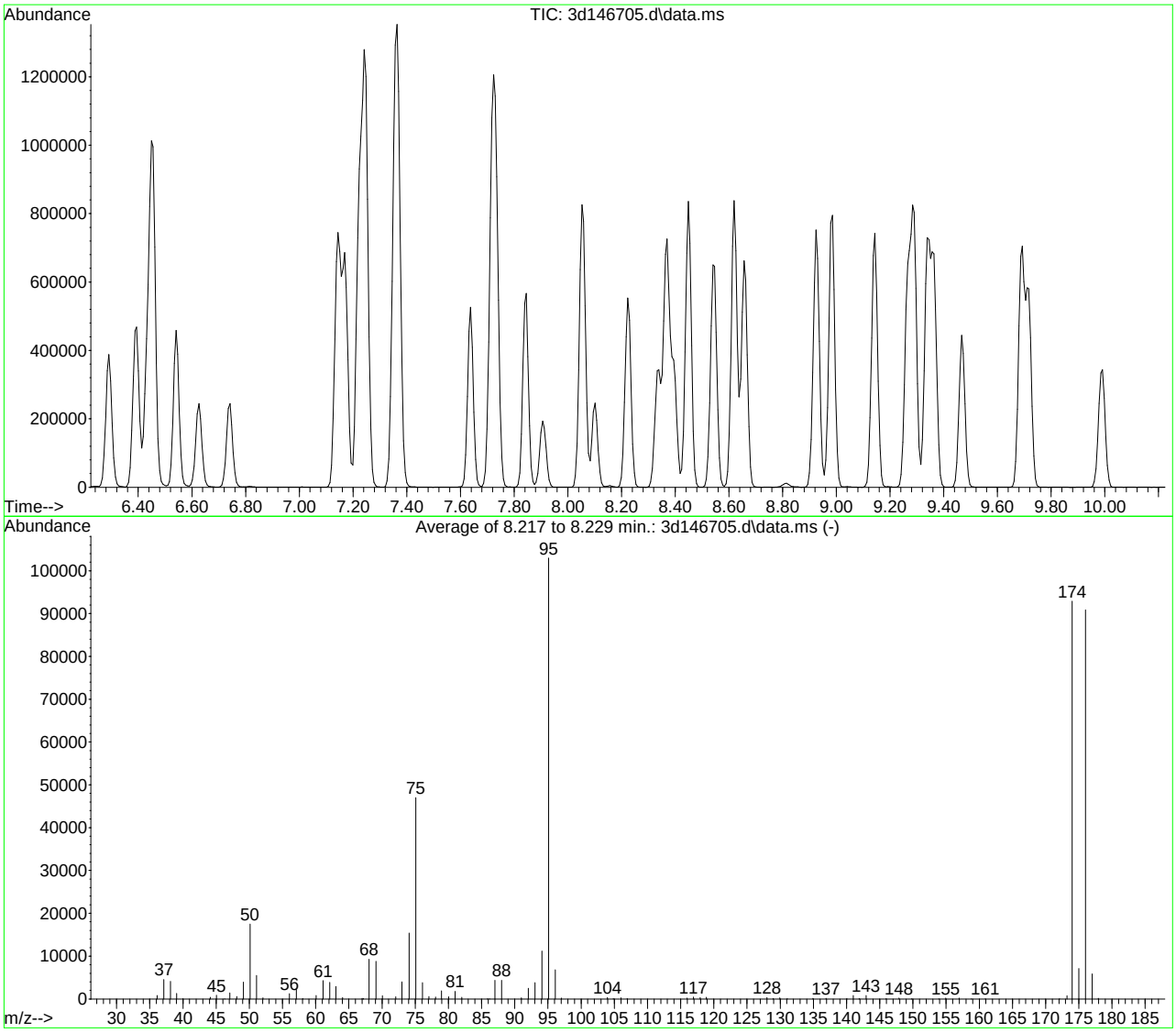
Average of 8.217 to 8.229 min.: 3D145269.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.10	10403	118.90	399	154.95	258		
95.10	94402	127.95	349	156.80	46		
96.10	6251	128.90	172	156.95	110		
97.05	220	129.95	307	158.85	133		
103.95	270	130.90	90	160.90	78		
104.95	69	134.95	178	173.15	981		
105.95	272	136.90	145	174.00	83682		
115.00	40	140.95	781	175.00	6242		
115.95	260	142.95	821	176.00	80954		
117.00	492	146.00	162	177.00	5431		
117.95	261	147.95	211	177.95	154		

SW-846 Method 8260

Data File : C:\msdchem\1\data\ke...19\v3d6273\3d146705.d Vial: 51
Acq On : 17 Apr 2019 6:36 pm Operator: JessicaP
Sample : bfb Inst : MS3D
Misc : MS34069,V3D6273,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019



AutoFind: Scans 1145, 1146, 1147; Background Corrected with Scan 1137

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.0	17467	PASS
75	95	30	60	45.7	47011	PASS
95	95	100	100	100.0	102963	PASS
96	95	5	9	6.6	6826	PASS
173	174	0.00	2	0.8	782	PASS
174	95	50	120	90.3	92931	PASS
175	174	5	9	7.6	7102	PASS
176	174	95	101	97.8	90851	PASS
177	176	5	9	6.5	5862	PASS

3d146705.d M3D6212.M Fri Apr 19 02:37:05 2019

Average of 8.217 to 8.229 min.: 3d146705.d\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	798	50.10	17467	67.00	171	78.05	438
37.10	4553	51.10	5510	67.20	84	78.95	1907
38.10	4131	52.05	252	68.05	9276	80.05	530
39.05	1320	56.05	1254	69.10	8801	81.00	1799
40.00	22	57.10	2177	70.05	728	82.00	368
44.10	409	58.05	85	72.05	517	85.90	34
45.05	886	60.05	820	73.00	3967	86.20	43
46.30	33	61.10	4303	74.10	15380	87.00	4339
47.05	1425	62.10	3887	75.10	47011	88.00	4382
48.10	585	63.05	2941	76.10	3843	91.00	254
49.10	3943	64.05	331	77.05	563	92.05	2512

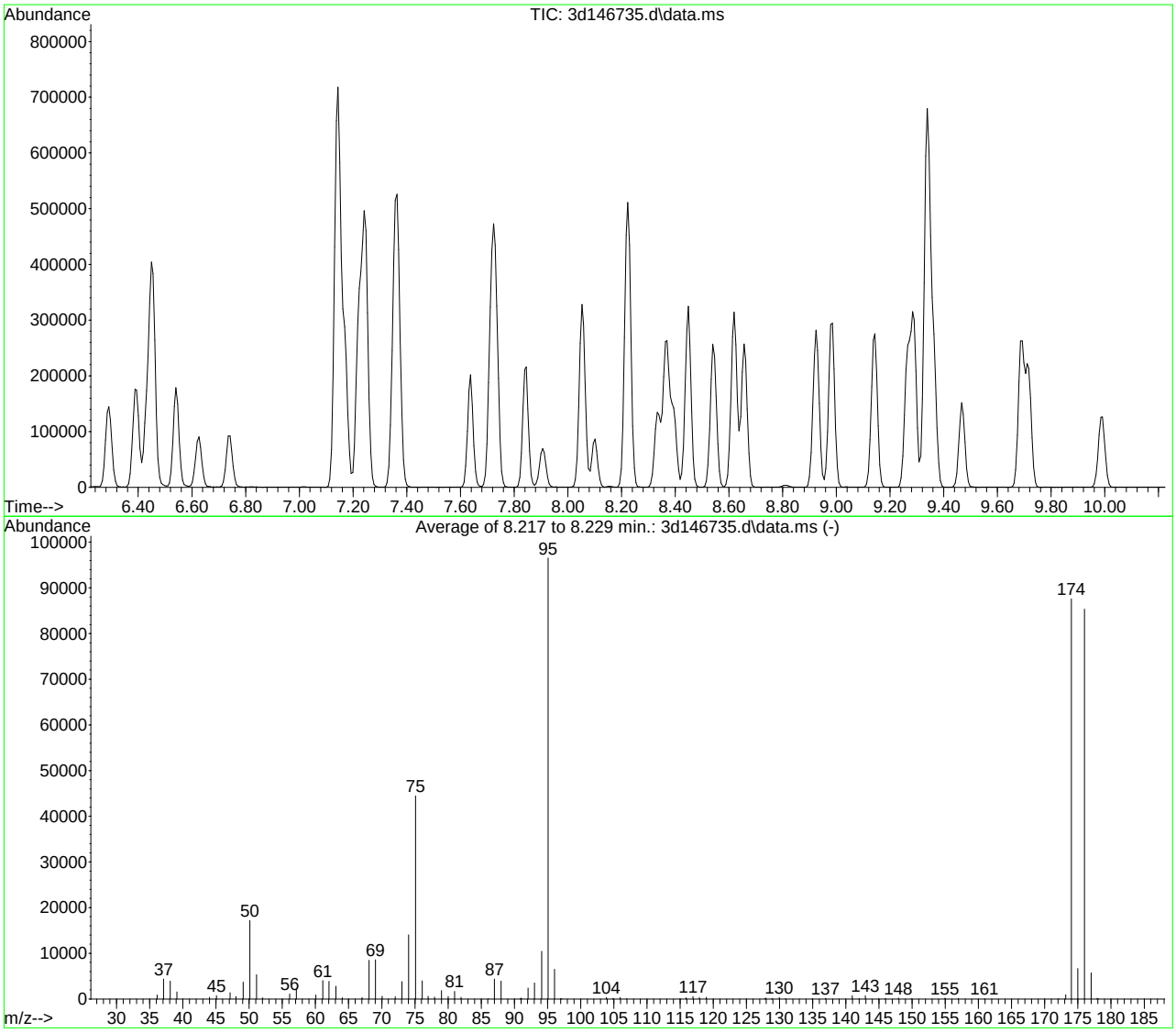
Average of 8.217 to 8.229 min.: 3d146705.d\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
93.05	3786	117.95	311	142.95	789	174.00	92931
94.10	11194	118.85	386	145.95	70	175.00	7102
95.10	102963	128.00	337	147.90	219	176.00	90851
96.10	6826	128.95	115	149.80	41	177.00	5862
97.05	208	129.95	273	153.90	34	177.95	182
103.95	326	131.05	122	154.95	220		
104.85	108	134.95	127	156.95	195		
106.00	299	136.90	149	158.80	38		
106.95	119	140.05	81	160.90	34		
115.95	242	141.00	785	172.10	51		
116.95	472	141.90	82	173.20	782		

SW-846 Method 8260

Data File : C:\msdchem\1\data\ke...19\v3d6274\3d146735.d Vial: 2
Acq On : 18 Apr 2019 7:26 am Operator: JessicaP
Sample : BFB Inst : MS3D
Misc : MS34039,V3D6274,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019



AutoFind: Scans 1145, 1146, 1147; Background Corrected with Scan 1137

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.8	17176	PASS
75	95	30	60	46.1	44477	PASS
95	95	100	100	100.0	96523	PASS
96	95	5	9	6.8	6516	PASS
173	174	0.00	2	1.0	913	PASS
174	95	50	120	90.8	87608	PASS
175	174	5	9	7.6	6678	PASS
176	174	95	101	97.4	85331	PASS
177	176	5	9	6.7	5717	PASS

3d146735.d M3D6212.M Thu Apr 18 21:05:07 2019

Average of 8.217 to 8.229 min.: 3d146735.d\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	892	52.05	254	70.05	622	81.95	371
37.10	4360	56.10	1104	72.05	468	86.10	51
38.10	3928	57.10	2235	73.05	3802	87.00	4359
39.10	1547	60.05	868	74.05	14047	88.00	3897
44.00	355	61.10	4018	75.10	44477	90.90	105
45.05	724	62.05	3828	76.10	3984	91.05	185
47.10	1403	63.10	2769	77.00	593	92.05	2369
48.00	511	64.05	256	77.95	423	93.05	3541
49.10	3672	67.05	290	79.00	1839	94.10	10426
50.10	17176	68.10	8461	80.00	549	95.10	96523
51.10	5310	69.05	8559	81.00	1678	96.05	6516

Average of 8.217 to 8.229 min.: 3d146735.d\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
97.00	78	127.80	98	145.95	124	177.00	5717
97.15	112	127.95	214	147.95	221	177.90	132
103.90	304	128.85	152	149.90	35	178.10	53
104.85	130	129.95	314	154.95	192		
105.95	298	130.90	89	156.95	100		
106.90	36	134.90	91	160.90	43		
115.00	49	136.95	170	172.10	40		
115.90	277	140.95	712	173.15	913		
116.95	513	142.00	76	174.00	87608		
117.90	284	142.95	729	175.00	6678		
118.95	385	144.90	35	176.00	85331		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145270.D
Acq On : 7 Mar 2019 6:37 pm
Operator : juntaep
Sample : ic6212-0.2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 08 18:23:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.980	65	220104	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	330657	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	448083	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	380674	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	179911	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	114571	48.21	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.42%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	127662	51.89	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 103.78%			
75) toluene-d8 (s)	5.894	98	486169	50.50	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.00%			
99) 4-bromofluorobenzene (s)	8.223	95	169166	49.75	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.50%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.035	59	660	1.21	ug/L	70
3) ethanol	2.426	45	1242	24.85	ug/L	74
6) chlorodifluoromethane	1.615	51	566	0.19	ug/L	66
7) dichlorodifluoromethane	1.603	85	531	0.15	ug/L	92
9) vinyl chloride	1.834	62	578	0.18	ug/L	75
10) 1,3-butadiene	1.865	54	560	0.22	ug/L	93
12) chloroethane	2.157	64	352	0.18	ug/L	49
13) trichlorofluoromethane	2.340	101	830	0.20	ug/L	93
14) vinyl bromide	2.291	106	372	0.20	ug/L #	65
15) ethyl ether	2.511	74	239	0.16	ug/L	88
16) acrolein	2.608	56	107	0.18	ug/L	98
18) 1,1-dichloroethene	2.694	96	350	0.15	ug/L	83
23) methylene chloride	3.011	84	602	0.26	ug/L #	74
24) methyl acetate	2.901	43	565	0.22	ug/L	63
25) methyl tert butyl ether	3.169	73	1389	0.19	ug/L	83
26) trans-1,2-dichloroethene	3.194	96	540	0.22	ug/L	96
27) di-isopropyl ether	3.486	45	1562	0.19	ug/L	89
28) 2-butanone	3.840	72	316	0.69	ug/L #	74
29) 1,1-dichloroethane	3.486	63	761	0.18	ug/L	74
30) chloroprene	3.535	53	729	0.18	ug/L	90
34) ethyl tert-butyl ether	3.730	59	1474	0.19	ug/L	95
36) 2,2-dichloropropane	3.883	77	692	0.20	ug/L	84
37) cis-1,2-dichloroethene	3.870	96	605	0.23	ug/L #	71
39) propionitrile	3.883	54	979	1.79	ug/L	94
40) bromochloromethane	4.029	128	208	0.18	ug/L #	65
42) chloroform	4.090	85	668	0.26	ug/L #	62
46) 1,1,1-trichloroethane	4.230	97	702	0.19	ug/L #	1
47) cyclohexane	4.291	84	877	0.22	ug/L #	81
48) 1,1-dichloropropene	4.334	75	639	0.19	ug/L	88
50) carbon tetrachloride	4.340	117	521	0.17	ug/L #	83
55) 2,2,4-trimethylpentane	4.541	57	1227	0.20	ug/L	84
56) benzene	4.480	78	1867	0.20	ug/L	94
57) tert-amyl methyl ether	4.541	87	347	0.19	ug/L #	42
58) heptane	4.657	71	289	0.18	ug/L #	82
61) trichloroethene	4.949	130	561	0.22	ug/L	91
62) ethyl acrylate	4.968	55	701	0.17	ug/L	75
65) methyl methacrylate	5.145	69	756	0.25	ug/L	92
67) dibromomethane	5.212	93	225	0.16	ug/L	98
69) bromodichloromethane	5.327	83	527	0.18	ug/L	80
71) cis-1,3-dichloropropene	5.669	75	851	0.23	ug/L	98
72) 4-methyl-2-pentanone	5.766	58	962	0.72	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145270.D
Acq On : 7 Mar 2019 6:37 pm
Operator : juntaep
Sample : ic6212-0.2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 08 18:23:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

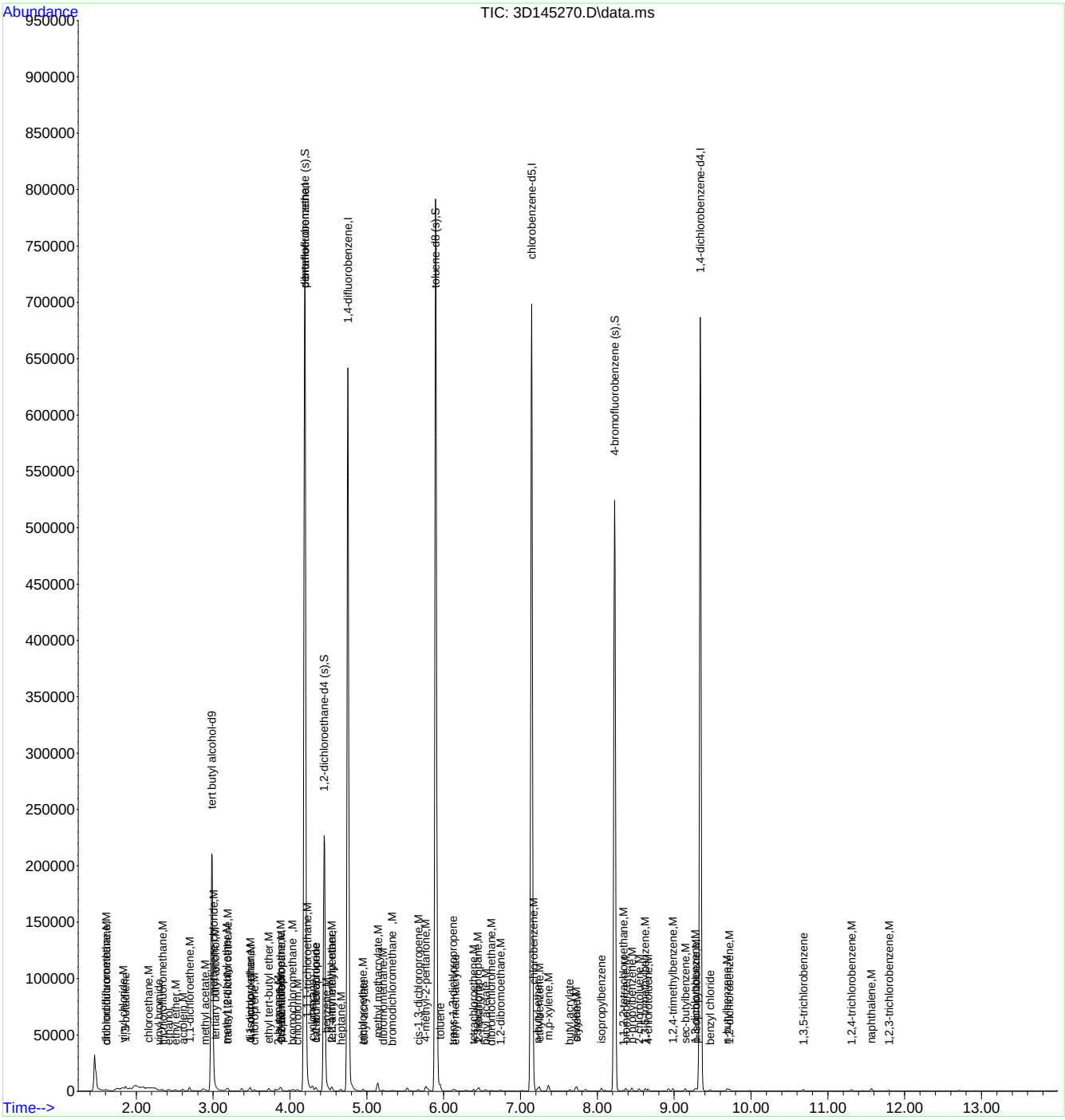
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
76) toluene	5.955	92	1313	0.22	ug/L	#	85
77) trans-1,3-dichloropropene	6.120	75	790	0.23	ug/L		96
78) ethyl methacrylate	6.150	69	664	0.18	ug/L		76
80) tetrachloroethene	6.388	164	443	0.21	ug/L	#	76
81) 1,3-dichloropropane	6.437	76	662	0.18	ug/L		92
82) 2-hexanone	6.455	58	996	0.71	ug/L		89
83) butyl acetate	6.541	56	417	0.19	ug/L		96
84) dibromochloromethane	6.620	129	353	0.16	ug/L		78
85) 1,2-dibromoethane	6.742	107	648	0.23	ug/L		98
86) n-butyl ether	7.223	57	1929	0.19	ug/L		93
87) chlorobenzene	7.175	112	1356	0.21	ug/L		72
89) ethylbenzene	7.248	91	2206	0.20	ug/L		94
90) m,p-xylene	7.358	106	1771	0.40	ug/L	#	76
91) o-xylene	7.717	106	886	0.21	ug/L		85
92) styrene	7.736	104	1352	0.19	ug/L		97
94) butyl acrylate	7.638	55	848	0.16	ug/L		82
96) isopropylbenzene	8.053	105	1997	0.18	ug/L		90
100) bromobenzene	8.370	156	524	0.19	ug/L	#	71
101) 1,1,2,2-tetrachloroethane	8.339	83	563	0.18	ug/L		92
104) n-propylbenzene	8.449	91	2438	0.20	ug/L		84
105) 2-chlorotoluene	8.546	126	466	0.18	ug/L	#	77
106) 4-chlorotoluene	8.656	126	451	0.18	ug/L	#	63
107) 1,3,5-trimethylbenzene	8.620	105	1693	0.20	ug/L		91
109) 1,2,4-trimethylbenzene	8.985	105	1619	0.19	ug/L		93
110) sec-butylbenzene	9.138	105	1816	0.18	ug/L		94
111) 1,3-dichlorobenzene	9.266	146	1100	0.22	ug/L		99
112) p-isopropyltoluene	9.284	119	1813	0.21	ug/L		85
114) benzyl chloride	9.467	91	1164	0.18	ug/L		97
115) 1,2-dichlorobenzene	9.717	146	1025	0.22	ug/L		83
116) n-butylbenzene	9.692	92	725	0.18	ug/L		99
118) 1,3,5-trichlorobenzene	10.674	180	755	0.22	ug/L		93
120) 1,2,4-trichlorobenzene	11.302	180	620	0.21	ug/L	#	58
122) naphthalene	11.564	128	2274	0.24	ug/L		98
123) 1,2,3-trichlorobenzene	11.790	180	475	0.17	ug/L		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145270.D
Acq On : 7 Mar 2019 6:37 pm
Operator : juntaep
Sample : ic6212-0.2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 08 18:23:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145271.D
Acq On : 7 Mar 2019 7:02 pm
Operator : juntaep
Sample : ic6212-0.5
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 08 18:24:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.980	65	215585	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	328988	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.755	114	448861	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	384722	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	179875	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.200	113	116460	49.25	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.50%				
53) 1,2-dichloroethane-d4 (s)	4.444	65	128245	52.03	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 104.06%				
75) toluene-d8 (s)	5.895	98	489292	50.29	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.58%				
99) 4-bromofluorobenzene (s)	8.223	95	170520	50.16	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.32%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	1369	2.55	ug/L		82
3) ethanol	2.420	45	2494	50.95	ug/L		96
4) 1,4-dioxane	5.181	88	578	11.68	ug/L		84
6) chlorodifluoromethane	1.615	51	1462	0.49	ug/L		86
7) dichlorodifluoromethane	1.603	85	1746	0.50	ug/L		93
8) chloromethane	1.749	50	1647	0.54	ug/L		89
9) vinyl chloride	1.834	62	1522	0.46	ug/L		84
10) 1,3-butadiene	1.859	54	1182	0.47	ug/L		93
12) chloroethane	2.157	64	1176	0.61	ug/L		88
13) trichlorofluoromethane	2.334	101	1979	0.49	ug/L		92
14) vinyl bromide	2.292	106	869	0.46	ug/L	#	77
15) ethyl ether	2.517	74	781	0.53	ug/L	#	83
16) acrolein	2.615	56	297	0.50	ug/L		94
17) freon 113	2.688	151	1034	0.48	ug/L		89
18) 1,1-dichloroethene	2.688	96	954	0.42	ug/L		94
20) acetonitrile	2.883	41	2620	5.46	ug/L		99
22) carbon disulfide	2.859	76	3127	0.55	ug/L		93
23) methylene chloride	3.011	84	1207	0.53	ug/L		78
24) methyl acetate	2.901	43	1377	0.54	ug/L		84
25) methyl tert butyl ether	3.176	73	3464	0.48	ug/L		83
26) trans-1,2-dichloroethene	3.194	96	1236	0.51	ug/L		92
27) di-isopropyl ether	3.480	45	3986	0.48	ug/L		91
28) 2-butanone	3.834	72	818	1.79	ug/L		93
29) 1,1-dichloroethane	3.486	63	1996	0.47	ug/L		96
30) chloroprene	3.535	53	1723	0.43	ug/L		95
31) acrylonitrile	3.157	53	530	0.42	ug/L		80
32) hexane	3.377	56	1016	0.50	ug/L		83
33) vinyl acetate	3.462	86	301	0.42	ug/L		93
34) ethyl tert-butyl ether	3.730	59	3786	0.48	ug/L		93
36) 2,2-dichloropropane	3.883	77	1739	0.50	ug/L		84
37) cis-1,2-dichloroethene	3.864	96	1190	0.46	ug/L		87
39) propionitrile	3.877	54	2650	4.88	ug/L		72
40) bromochloromethane	4.029	128	544	0.46	ug/L	#	83
42) chloroform	4.090	85	1322	0.52	ug/L		91
43) t-butyl formate	4.108	59	949	0.40	ug/L		83
45) methacrylonitrile	3.992	67	527	0.39	ug/L		96
46) 1,1,1-trichloroethane	4.230	97	1850	0.50	ug/L	#	13
47) cyclohexane	4.291	84	2105	0.54	ug/L	#	84
48) 1,1-dichloropropene	4.334	75	1640	0.48	ug/L		95
49) iso-butyl alcohol	4.340	43	1106	5.33	ug/L		92
50) carbon tetrachloride	4.346	117	1448	0.47	ug/L		83

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145271.D
Acq On : 7 Mar 2019 7:02 pm
Operator : juntaep
Sample : ic6212-0.5
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 08 18:24:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) tert amyl alcohol	4.431	55	455	2.50	ug/L		81
54) n-butyl alcohol	4.809	56	3275	22.21	ug/L		97
55) 2,2,4-trimethylpentane	4.547	57	3245	0.53	ug/L		93
56) benzene	4.480	78	4981	0.53	ug/L		88
57) tert-amyl methyl ether	4.541	87	953	0.51	ug/L		95
58) heptane	4.657	71	841	0.52	ug/L		90
61) trichloroethene	4.950	130	1188	0.46	ug/L		90
62) ethyl acrylate	4.968	55	1898	0.47	ug/L		91
63) 2-nitropropane	5.486	41	387	0.55	ug/L	#	73
64) 2-chloroethyl vinyl ether	5.523	63	3283	1.87	ug/L		94
65) methyl methacrylate	5.145	69	1676	0.56	ug/L		96
66) 1,2-dichloropropane	5.145	63	1114	0.48	ug/L		89
67) dibromomethane	5.212	93	670	0.48	ug/L		93
69) bromodichloromethane	5.328	83	1378	0.47	ug/L		96
70) epichlorohydrin	5.578	57	853	2.10	ug/L	#	58
71) cis-1,3-dichloropropene	5.669	75	1640	0.44	ug/L		93
72) 4-methyl-2-pentanone	5.767	58	2491	1.85	ug/L		98
73) 3-methyl-1-butanol	5.791	55	1659	7.61	ug/L		96
76) toluene	5.955	92	3063	0.51	ug/L		97
77) trans-1,3-dichloropropene	6.126	75	1676	0.48	ug/L		84
78) ethyl methacrylate	6.144	69	1682	0.45	ug/L		91
79) 1,1,2-trichloroethane	6.291	83	778	0.44	ug/L	#	75
80) tetrachloroethene	6.394	164	1036	0.48	ug/L		91
81) 1,3-dichloropropane	6.437	76	1759	0.48	ug/L		97
82) 2-hexanone	6.455	58	2478	1.75	ug/L		98
83) butyl acetate	6.541	56	957	0.42	ug/L		96
84) dibromochloromethane	6.626	129	965	0.44	ug/L		90
85) 1,2-dibromoethane	6.742	107	1246	0.45	ug/L		90
86) n-butyl ether	7.224	57	4453	0.44	ug/L		88
87) chlorobenzene	7.169	112	3347	0.52	ug/L		90
88) 1,1,1,2-tetrachloroethane	7.242	131	1053	0.47	ug/L		93
89) ethylbenzene	7.248	91	5385	0.47	ug/L		90
90) m,p-xylene	7.364	106	4396	0.99	ug/L		93
91) o-xylene	7.717	106	2134	0.50	ug/L	#	76
92) styrene	7.736	104	3386	0.46	ug/L		89
94) butyl acrylate	7.638	55	2327	0.42	ug/L		94
95) n-amyl acetate	7.845	70	931	0.40	ug/L		93
96) isopropylbenzene	8.059	105	5433	0.50	ug/L		96
100) bromobenzene	8.370	156	1464	0.52	ug/L		86
101) 1,1,2,2-tetrachloroethane	8.339	83	1423	0.44	ug/L		92
103) 1,2,3-trichloropropane	8.400	110	521	0.49	ug/L		87
104) n-propylbenzene	8.449	91	6141	0.50	ug/L		98
105) 2-chlorotoluene	8.546	126	1237	0.48	ug/L	#	79
106) 4-chlorotoluene	8.656	126	1332	0.52	ug/L		93
107) 1,3,5-trimethylbenzene	8.620	105	4117	0.48	ug/L		98
108) tert-butylbenzene	8.931	134	896	0.47	ug/L	#	84
109) 1,2,4-trimethylbenzene	8.985	105	4126	0.48	ug/L		91
110) sec-butylbenzene	9.144	105	4928	0.48	ug/L		94
111) 1,3-dichlorobenzene	9.266	146	2408	0.49	ug/L		97
112) p-isopropyltoluene	9.290	119	4091	0.46	ug/L		95
113) 1,4-dichlorobenzene	9.369	146	2520	0.50	ug/L		95
114) benzyl chloride	9.467	91	2674	0.42	ug/L		86
115) 1,2-dichlorobenzene	9.717	146	2426	0.52	ug/L		95
116) n-butylbenzene	9.693	92	1717	0.43	ug/L		91
118) 1,3,5-trichlorobenzene	10.680	180	1613	0.47	ug/L		87
120) 1,2,4-trichlorobenzene	11.308	180	1361	0.45	ug/L		82
121) hexachlorobutadiene	11.454	225	564	0.48	ug/L		86
122) naphthalene	11.570	128	4310	0.46	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145271.D
Acq On : 7 Mar 2019 7:02 pm
Operator : juntaep
Sample : ic6212-0.5
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 08 18:24:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

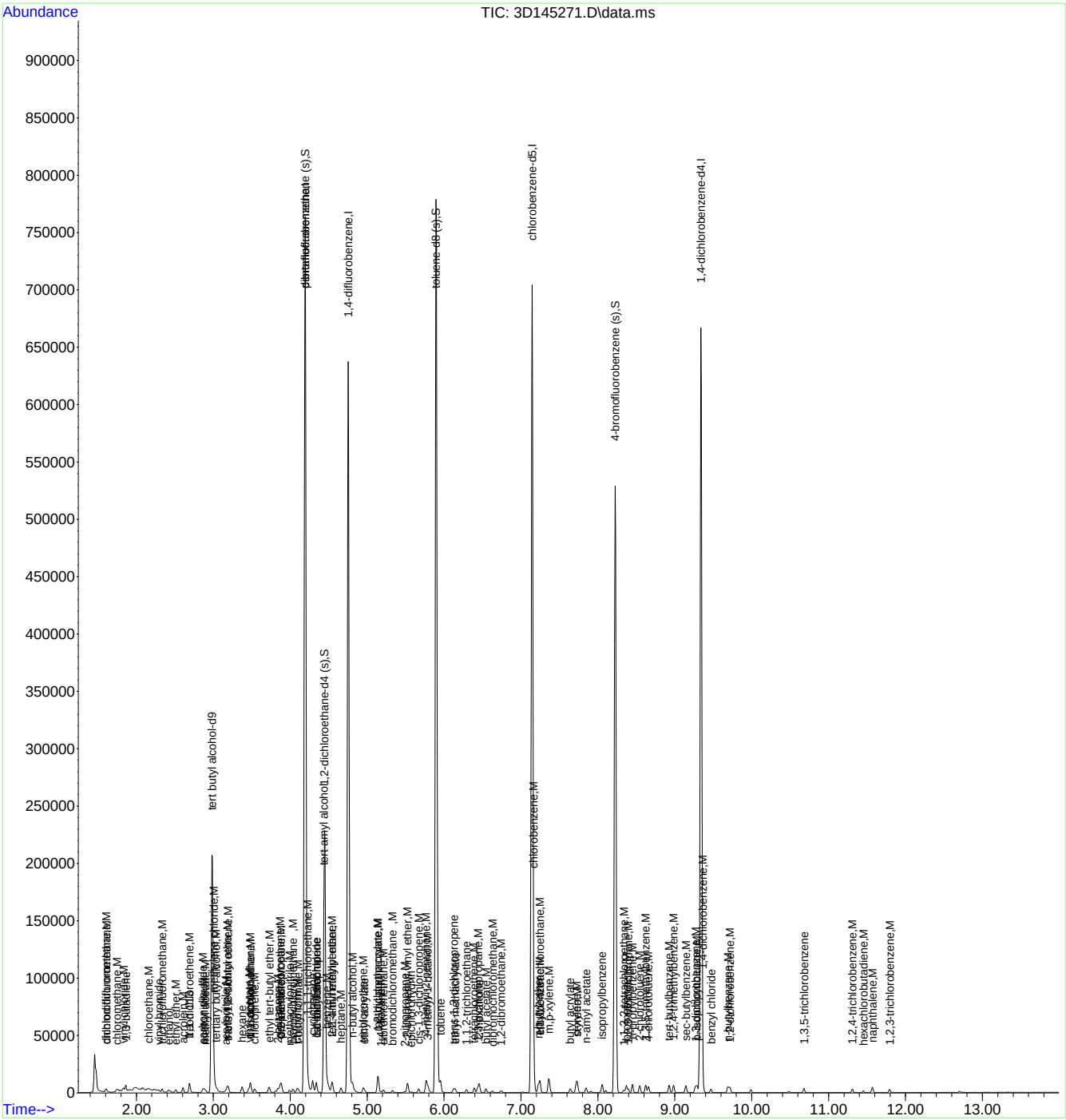
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
123) 1,2,3-trichlorobenzene	11.790	180	1237	0.44	ug/L	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145271.D
Acq On : 7 Mar 2019 7:02 pm
Operator : juntaep
Sample : ic6212-0.5
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 08 18:24:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145272.D
Acq On : 7 Mar 2019 7:27 pm
Operator : juntaep
Sample : ic6212-1
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 08 18:25:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.986	65	218651	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	324918	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	447955	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	384138	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	180549	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	115835	49.60	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.20%			
53) 1,2-dichloroethane-d4 (s)	4.450	65	127387	51.79	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 103.58%			
75) toluene-d8 (s)	5.901	98	484991	49.93	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.86%			
99) 4-bromofluorobenzene (s)	8.223	95	169334	49.62	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.24%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.041	59	3125	5.75	ug/L	90
3) ethanol	2.420	45	6293	126.76	ug/L	94
4) 1,4-dioxane	5.181	88	1427	28.43	ug/L	91
6) chlorodifluoromethane	1.615	51	3262	1.10	ug/L	98
7) dichlorodifluoromethane	1.603	85	3250	0.94	ug/L	99
8) chloromethane	1.749	50	3149	1.04	ug/L	95
9) vinyl chloride	1.834	62	3061	0.94	ug/L	92
10) 1,3-butadiene	1.865	54	2886	1.15	ug/L	96
11) bromomethane	2.084	94	1238	1.06	ug/L	78
12) chloroethane	2.157	64	2074	1.09	ug/L	93
13) trichlorofluoromethane	2.334	101	3747	0.93	ug/L	97
14) vinyl bromide	2.291	106	1834	0.98	ug/L	93
15) ethyl ether	2.517	74	1570	1.07	ug/L	86
16) acrolein	2.615	56	596	1.02	ug/L	95
17) freon 113	2.688	151	2316	1.10	ug/L	91
18) 1,1-dichloroethene	2.694	96	2503	1.12	ug/L	97
19) acetone	2.694	58	1475	4.62	ug/L	90
20) acetonitrile	2.883	41	5967	12.59	ug/L	96
22) carbon disulfide	2.865	76	6873	1.21	ug/L	94
23) methylene chloride	3.011	84	2717	1.20	ug/L	97
24) methyl acetate	2.901	43	3191	1.26	ug/L	93
25) methyl tert butyl ether	3.182	73	8103	1.13	ug/L	96
26) trans-1,2-dichloroethene	3.194	96	2654	1.12	ug/L	91
27) di-isopropyl ether	3.480	45	9295	1.14	ug/L	94
28) 2-butanone	3.840	72	1989	4.41	ug/L	94
29) 1,1-dichloroethane	3.486	63	4558	1.10	ug/L	87
30) chloroprene	3.541	53	4440	1.12	ug/L	95
31) acrylonitrile	3.151	53	1341	1.07	ug/L	80
32) hexane	3.377	56	2289	1.14	ug/L	92
33) vinyl acetate	3.456	86	726	1.03	ug/L #	91
34) ethyl tert-butyl ether	3.730	59	8448	1.09	ug/L	93
35) ethyl acetate	3.852	45	588	1.12	ug/L #	68
36) 2,2-dichloropropane	3.877	77	4142	1.20	ug/L	92
37) cis-1,2-dichloroethene	3.864	96	2816	1.10	ug/L	99
38) methyl acrylate	3.895	85	504	0.96	ug/L	98
39) propionitrile	3.883	54	6322	11.79	ug/L	87
40) bromochloromethane	4.029	128	1372	1.18	ug/L	92
41) tetrahydrofuran	4.047	72	610	1.21	ug/L	83
42) chloroform	4.090	85	2876	1.14	ug/L	98
43) t-butyl formate	4.108	59	2272	0.97	ug/L	93
45) methacrylonitrile	3.992	67	1380	1.03	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145272.D
Acq On : 7 Mar 2019 7:27 pm
Operator : juntaep
Sample : ic6212-1
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 08 18:25:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,1,1-trichloroethane	4.224	97	4015	1.10 ug/L #	53
47) cyclohexane	4.291	84	3922	1.02 ug/L	94
48) 1,1-dichloropropene	4.334	75	3977	1.19 ug/L	97
49) iso-butyl alcohol	4.334	43	2549	12.45 ug/L	95
50) carbon tetrachloride	4.346	117	3087	1.01 ug/L	94
51) tert amyl alcohol	4.425	55	1135	6.30 ug/L	89
54) n-butyl alcohol	4.809	56	8176	55.55 ug/L	95
55) 2,2,4-trimethylpentane	4.547	57	7069	1.15 ug/L	96
56) benzene	4.480	78	10699	1.14 ug/L	92
57) tert-amyl methyl ether	4.547	87	2049	1.10 ug/L	92
58) heptane	4.663	71	1861	1.15 ug/L	94
59) isopropyl acetate	4.456	87	867	1.09 ug/L #	63
60) 1,2-dichloroethane	4.504	62	4071	1.33 ug/L	94
61) trichloroethene	4.949	130	2776	1.08 ug/L	96
62) ethyl acrylate	4.968	55	4229	1.05 ug/L	98
63) 2-nitropropane	5.486	41	784	1.12 ug/L	88
64) 2-chloroethyl vinyl ether	5.529	63	7678	4.39 ug/L	92
65) methyl methacrylate	5.145	69	3568	1.19 ug/L	88
66) 1,2-dichloropropane	5.145	63	2606	1.12 ug/L	88
67) dibromomethane	5.212	93	1561	1.13 ug/L	98
69) bromodichloromethane	5.334	83	3202	1.10 ug/L	92
70) epichlorohydrin	5.577	57	2024	5.00 ug/L	90
71) cis-1,3-dichloropropene	5.669	75	3909	1.04 ug/L	92
72) 4-methyl-2-pentanone	5.766	58	5942	4.43 ug/L	94
73) 3-methyl-1-butanol	5.791	55	4265	19.60 ug/L	87
76) toluene	5.955	92	6707	1.11 ug/L	87
77) trans-1,3-dichloropropene	6.120	75	3712	1.07 ug/L	95
78) ethyl methacrylate	6.144	69	3986	1.06 ug/L	97
79) 1,1,2-trichloroethane	6.291	83	1949	1.10 ug/L	94
80) tetrachloroethene	6.394	164	2445	1.13 ug/L	93
81) 1,3-dichloropropane	6.437	76	4244	1.15 ug/L	96
82) 2-hexanone	6.455	58	6199	4.37 ug/L	98
83) butyl acetate	6.547	56	2364	1.04 ug/L	88
84) dibromochloromethane	6.626	129	2276	1.03 ug/L	91
85) 1,2-dibromoethane	6.742	107	3105	1.12 ug/L	88
86) n-butyl ether	7.223	57	11179	1.12 ug/L	97
87) chlorobenzene	7.169	112	7437	1.15 ug/L	93
88) 1,1,1,2-tetrachloroethane	7.236	131	2291	1.02 ug/L	93
89) ethylbenzene	7.248	91	12906	1.14 ug/L	98
90) m,p-xylene	7.364	106	10110	2.29 ug/L	91
91) o-xylene	7.723	106	4959	1.17 ug/L	92
92) styrene	7.736	104	7975	1.09 ug/L	95
93) bromoform	7.912	173	1511	0.92 ug/L	94
94) butyl acrylate	7.638	55	5450	0.99 ug/L	91
95) n-amyl acetate	7.845	70	2499	1.09 ug/L	92
96) isopropylbenzene	8.059	105	12097	1.11 ug/L	95
97) cis-1,4-dichloro-2-butene	8.107	88	1091	0.85 ug/L	99
100) bromobenzene	8.370	156	3337	1.18 ug/L	87
101) 1,1,2,2-tetrachloroethane	8.333	83	3462	1.07 ug/L	94
102) trans-1,4-dichloro-2-b...	8.370	53	1056	1.12 ug/L #	53
103) 1,2,3-trichloropropane	8.400	110	1221	1.15 ug/L	89
104) n-propylbenzene	8.449	91	13367	1.09 ug/L	94
105) 2-chlorotoluene	8.546	126	2975	1.16 ug/L	91
106) 4-chlorotoluene	8.662	126	2892	1.13 ug/L	91
107) 1,3,5-trimethylbenzene	8.620	105	9743	1.12 ug/L	99
108) tert-butylbenzene	8.930	134	2166	1.14 ug/L	94
109) 1,2,4-trimethylbenzene	8.985	105	9688	1.13 ug/L	99
110) sec-butylbenzene	9.144	105	11159	1.08 ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145272.D
Acq On : 7 Mar 2019 7:27 pm
Operator : juntaep
Sample : ic6212-1
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 08 18:25:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

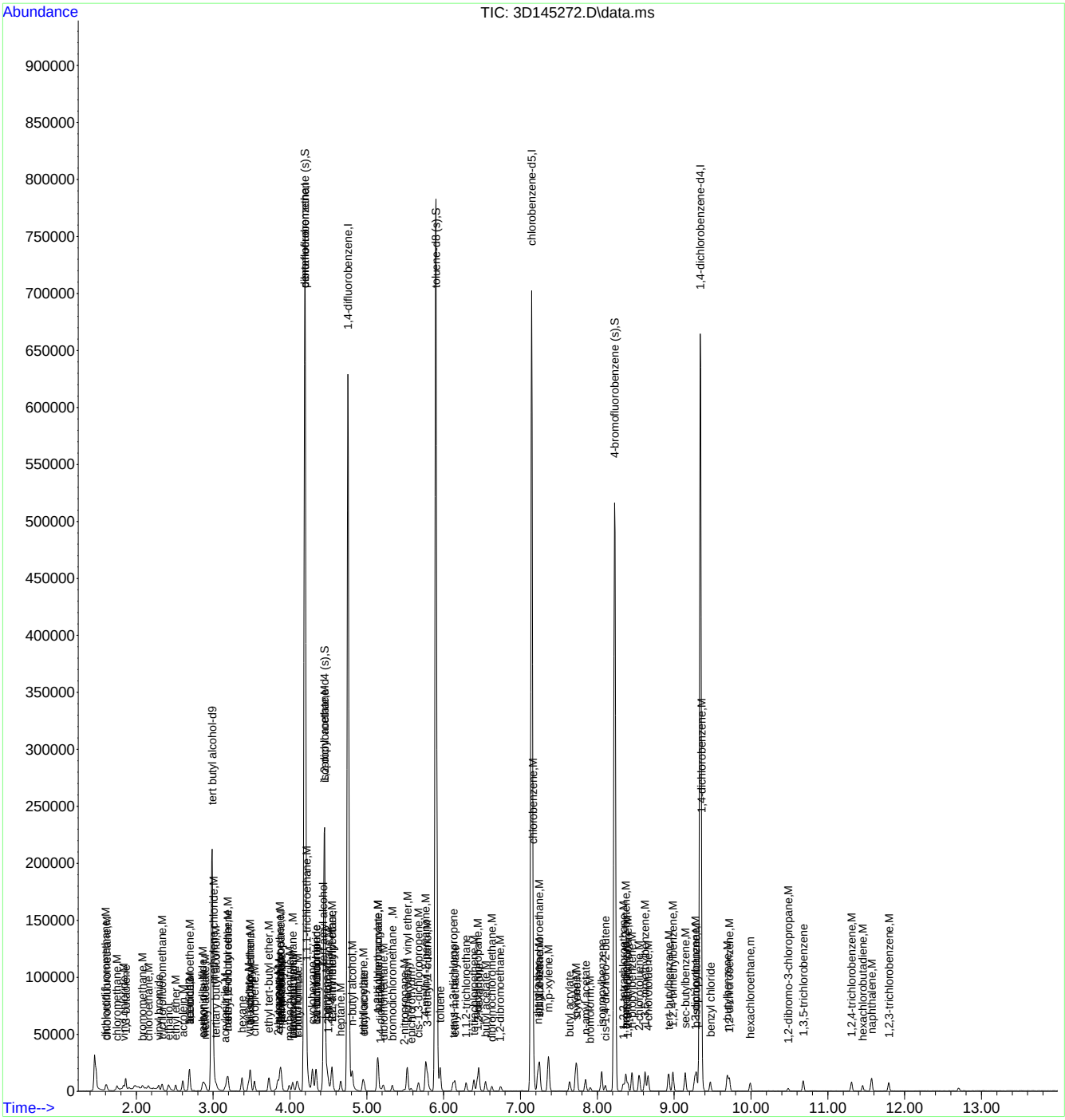
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
111) 1,3-dichlorobenzene	9.272	146	5558	1.12 ug/L	99
112) p-isopropyltoluene	9.290	119	9826	1.11 ug/L	98
113) 1,4-dichlorobenzene	9.363	146	5749	1.14 ug/L	94
114) benzyl chloride	9.473	91	6415	1.01 ug/L	93
115) 1,2-dichlorobenzene	9.717	146	5175	1.10 ug/L	97
116) n-butylbenzene	9.692	92	4255	1.05 ug/L	96
117) 1,2-dibromo-3-chloropr...	10.479	75	631	0.92 ug/L #	83
118) 1,3,5-trichlorobenzene	10.680	180	3724	1.09 ug/L	89
120) 1,2,4-trichlorobenzene	11.308	180	2944	0.97 ug/L	92
121) hexachlorobutadiene	11.454	225	1207	1.01 ug/L	95
122) naphthalene	11.570	128	9758	1.03 ug/L	94
123) 1,2,3-trichlorobenzene	11.796	180	3001	1.05 ug/L	92
124) hexachloroethane	9.991	201	1194	0.90 ug/L	82

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145272.D
Acq On : 7 Mar 2019 7:27 pm
Operator : juntaep
Sample : ic6212-1
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 08 18:25:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145273.D
Acq On : 7 Mar 2019 7:52 pm
Operator : juntaep
Sample : ic6212-2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 08 18:25:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.986	65	218913	500.00	ug/L		0.00
5) pentafluorobenzene	4.193	168	330735	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	454681	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	388374	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	185181	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.199	113	117743	49.53	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.06%				
53) 1,2-dichloroethane-d4 (s)	4.443	65	131331	52.60	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 105.20%				
75) toluene-d8 (s)	5.900	98	495803	50.48	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.96%				
99) 4-bromofluorobenzene (s)	8.223	95	173353	49.53	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.06%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	5726	10.51	ug/L		95
3) ethanol	2.419	45	10870	218.70	ug/L		99
4) 1,4-dioxane	5.181	88	2608	51.90	ug/L		97
6) chlorodifluoromethane	1.615	51	6272	2.08	ug/L		98
7) dichlorodifluoromethane	1.602	85	6490	1.84	ug/L		92
8) chloromethane	1.749	50	5943	1.92	ug/L		95
9) vinyl chloride	1.834	62	6033	1.83	ug/L		99
10) 1,3-butadiene	1.858	54	5321	2.09	ug/L		98
11) bromomethane	2.078	94	2435	2.04	ug/L		95
12) chloroethane	2.157	64	3702	1.91	ug/L		92
13) trichlorofluoromethane	2.334	101	7361	1.80	ug/L		96
14) vinyl bromide	2.291	106	3364	1.77	ug/L		99
15) ethyl ether	2.517	74	3132	2.10	ug/L		88
16) acrolein	2.608	56	1095	1.85	ug/L		88
17) freon 113	2.688	151	4399	2.05	ug/L		91
18) 1,1-dichloroethene	2.688	96	4369	1.91	ug/L		86
19) acetone	2.694	58	2516	7.74	ug/L	#	82
20) acetonitrile	2.883	41	10048	20.84	ug/L		94
21) iodomethane	2.803	142	491	0.38	ug/L		89
22) carbon disulfide	2.858	76	11732	2.03	ug/L		97
23) methylene chloride	3.011	84	4957	2.16	ug/L		97
24) methyl acetate	2.901	43	5533	2.15	ug/L		94
25) methyl tert butyl ether	3.175	73	14631	2.01	ug/L		98
26) trans-1,2-dichloroethene	3.194	96	4787	1.98	ug/L		98
27) di-isopropyl ether	3.480	45	16608	2.01	ug/L		91
28) 2-butanone	3.834	72	3568	7.77	ug/L	#	86
29) 1,1-dichloroethane	3.486	63	8391	1.98	ug/L		97
30) chloroprene	3.535	53	7836	1.94	ug/L		97
31) acrylonitrile	3.151	53	2600	2.03	ug/L		97
32) hexane	3.376	56	4237	2.08	ug/L		86
33) vinyl acetate	3.456	86	1373	1.91	ug/L	#	63
34) ethyl tert-butyl ether	3.724	59	15704	1.99	ug/L		95
35) ethyl acetate	3.852	45	1055	1.98	ug/L	#	88
36) 2,2-dichloropropane	3.876	77	7266	2.07	ug/L		94
37) cis-1,2-dichloroethene	3.870	96	5107	1.96	ug/L		97
38) methyl acrylate	3.895	85	1064	1.99	ug/L	#	90
39) propionitrile	3.876	54	10825	19.83	ug/L		77
40) bromochloromethane	4.029	128	2510	2.12	ug/L		90
41) tetrahydrofuran	4.047	72	861	1.67	ug/L	#	74
42) chloroform	4.084	85	5224	2.03	ug/L		96
43) t-butyl formate	4.102	59	4185	1.76	ug/L		88

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145273.D
Acq On : 7 Mar 2019 7:52 pm
Operator : juntaep
Sample : ic6212-2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 08 18:25:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) methacrylonitrile	3.992	67	2719	2.00	ug/L		84
46) 1,1,1-trichloroethane	4.230	97	7643	2.06	ug/L		80
47) cyclohexane	4.291	84	7612	1.95	ug/L		99
48) 1,1-dichloropropene	4.334	75	6904	2.03	ug/L		99
49) iso-butyl alcohol	4.334	43	4277	20.52	ug/L		97
50) carbon tetrachloride	4.340	117	6075	1.94	ug/L		88
51) tert amyl alcohol	4.425	55	1721	9.39	ug/L		91
54) n-butyl alcohol	4.809	56	13696	91.68	ug/L		97
55) 2,2,4-trimethylpentane	4.547	57	13279	2.12	ug/L		96
56) benzene	4.480	78	19972	2.09	ug/L		94
57) tert-amyl methyl ether	4.541	87	3833	2.04	ug/L		93
58) heptane	4.657	71	3494	2.12	ug/L		94
59) isopropyl acetate	4.449	87	1538	1.90	ug/L	#	69
60) 1,2-dichloroethane	4.498	62	6695	2.15	ug/L		99
61) trichloroethene	4.949	130	5423	2.08	ug/L		97
62) ethyl acrylate	4.968	55	8098	1.99	ug/L		96
63) 2-nitropropane	5.486	41	1223	1.72	ug/L		88
64) 2-chloroethyl vinyl ether	5.529	63	15677	8.84	ug/L		97
65) methyl methacrylate	5.144	69	5998	1.96	ug/L		94
66) 1,2-dichloropropane	5.144	63	4769	2.03	ug/L		99
67) dibromomethane	5.211	93	2801	2.00	ug/L		98
68) methylcyclohexane	5.138	83	9346	2.33	ug/L		99
69) bromodichloromethane	5.327	83	5497	1.86	ug/L		98
70) epichlorohydrin	5.571	57	3792	9.23	ug/L		99
71) cis-1,3-dichloropropene	5.669	75	7672	2.02	ug/L		97
72) 4-methyl-2-pentanone	5.766	58	10891	8.00	ug/L		98
73) 3-methyl-1-butanol	5.791	55	7745	35.07	ug/L		97
76) toluene	5.955	92	12635	2.07	ug/L		94
77) trans-1,3-dichloropropene	6.120	75	6616	1.89	ug/L		94
78) ethyl methacrylate	6.144	69	6995	1.84	ug/L		97
79) 1,1,2-trichloroethane	6.297	83	3681	2.06	ug/L	#	82
80) tetrachloroethene	6.394	164	4298	1.96	ug/L		88
81) 1,3-dichloropropane	6.437	76	7648	2.05	ug/L		97
82) 2-hexanone	6.455	58	10986	7.66	ug/L		98
83) butyl acetate	6.547	56	4408	1.93	ug/L		95
84) dibromochloromethane	6.626	129	3997	1.79	ug/L		93
85) 1,2-dibromoethane	6.742	107	5304	1.89	ug/L		97
86) n-butyl ether	7.223	57	20293	2.01	ug/L		99
87) chlorobenzene	7.168	112	13654	2.09	ug/L		98
88) 1,1,1,2-tetrachloroethane	7.242	131	4306	1.90	ug/L		95
89) ethylbenzene	7.248	91	23463	2.04	ug/L		99
90) m,p-xylene	7.364	106	18386	4.11	ug/L		98
91) o-xylene	7.717	106	8370	1.96	ug/L		94
92) styrene	7.735	104	14619	1.97	ug/L		97
93) bromoform	7.906	173	2809	1.68	ug/L		99
94) butyl acrylate	7.638	55	9708	1.74	ug/L		99
95) n-amyl acetate	7.845	70	4394	1.89	ug/L		91
96) isopropylbenzene	8.059	105	21887	1.99	ug/L		99
97) cis-1,4-dichloro-2-butene	8.101	88	2129	1.64	ug/L		98
100) bromobenzene	8.369	156	5775	1.99	ug/L		97
101) 1,1,2,2-tetrachloroethane	8.339	83	6446	1.95	ug/L		97
102) trans-1,4-dichloro-2-b...	8.376	53	1769	1.83	ug/L	#	78
103) 1,2,3-trichloropropane	8.400	110	2121	1.96	ug/L		96
104) n-propylbenzene	8.449	91	24535	1.95	ug/L		98
105) 2-chlorotoluene	8.546	126	5119	1.95	ug/L	#	80
106) 4-chlorotoluene	8.662	126	5289	2.01	ug/L		95
107) 1,3,5-trimethylbenzene	8.619	105	17600	1.98	ug/L		97
108) tert-butylbenzene	8.930	134	3977	2.04	ug/L	#	87

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145273.D
Acq On : 7 Mar 2019 7:52 pm
Operator : juntaep
Sample : ic6212-2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 08 18:25:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

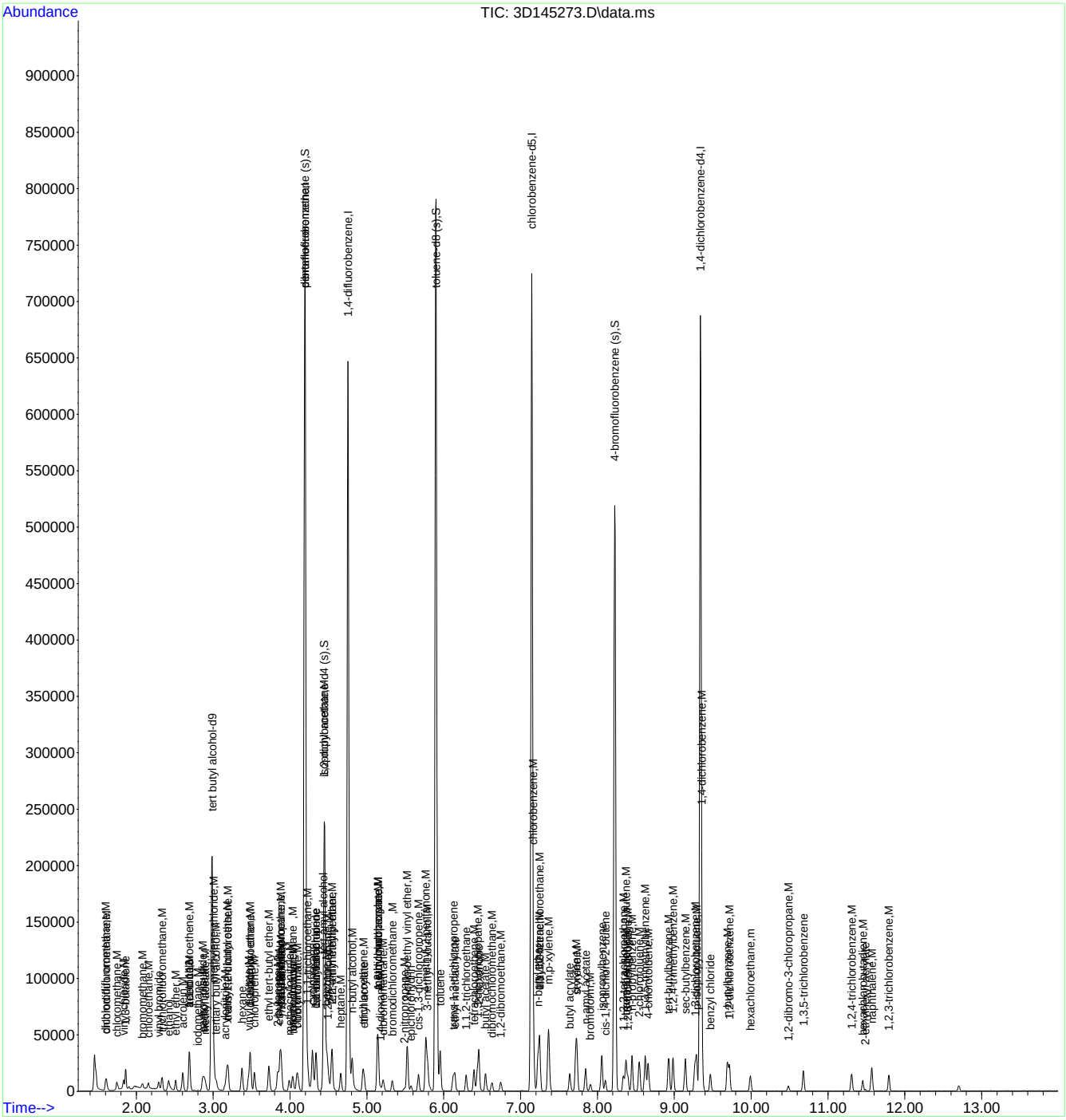
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	17153	1.94	ug/L		98
110) sec-butylbenzene	9.144	105	20501	1.94	ug/L		99
111) 1,3-dichlorobenzene	9.266	146	10259	2.02	ug/L		97
112) p-isopropyltoluene	9.290	119	17713	1.95	ug/L		95
113) 1,4-dichlorobenzene	9.363	146	10599	2.05	ug/L		97
114) benzyl chloride	9.467	91	11342	1.74	ug/L		100
115) 1,2-dichlorobenzene	9.717	146	10100	2.10	ug/L		95
116) n-butylbenzene	9.686	92	7709	1.86	ug/L		94
117) 1,2-dibromo-3-chloropr...	10.485	75	1154	1.64	ug/L		93
118) 1,3,5-trichlorobenzene	10.680	180	6533	1.87	ug/L		96
119) 2-ethylhexyl acrylate	11.485	70	306	0.18	ug/L	#	81
120) 1,2,4-trichlorobenzene	11.308	180	5615	1.80	ug/L		89
121) hexachlorobutadiene	11.454	225	2189	1.79	ug/L		98
122) naphthalene	11.570	128	17412	1.79	ug/L		97
123) 1,2,3-trichlorobenzene	11.789	180	5147	1.76	ug/L		100
124) hexachloroethane	9.991	201	2317	1.70	ug/L		86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145273.D
Acq On : 7 Mar 2019 7:52 pm
Operator : juntaep
Sample : ic6212-2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 08 18:25:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145274.D
Acq On : 7 Mar 2019 8:17 pm
Operator : juntaep
Sample : ic6212-4
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 08 17:34:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.986	65	219201	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	325395	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	449080	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	383406	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	179727	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.200	113	115048	49.19	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.38%				
53) 1,2-dichloroethane-d4 (s)	4.450	65	128365	52.06	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 104.12%				
75) toluene-d8 (s)	5.894	98	483787	49.90	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.80%				
99) 4-bromofluorobenzene (s)	8.223	95	169436	49.88	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.76%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	10577	19.40	ug/L		95
3) ethanol	2.420	45	20000	401.87	ug/L		100
4) 1,4-dioxane	5.181	88	4808	95.55	ug/L		96
6) chlorodifluoromethane	1.615	51	11095	3.74	ug/L		98
7) dichlorodifluoromethane	1.603	85	13173	3.80	ug/L		99
8) chloromethane	1.749	50	12013	3.95	ug/L		98
9) vinyl chloride	1.834	62	11874	3.66	ug/L		97
10) 1,3-butadiene	1.865	54	9609	3.84	ug/L		95
11) bromomethane	2.078	94	4438	3.78	ug/L		87
12) chloroethane	2.157	64	7513	3.94	ug/L		98
13) trichlorofluoromethane	2.334	101	15342	3.81	ug/L		94
14) vinyl bromide	2.292	106	7037	3.75	ug/L		97
15) ethyl ether	2.511	74	5279	3.60	ug/L		95
16) acrolein	2.608	56	2371	4.07	ug/L		96
17) freon 113	2.688	151	8325	3.95	ug/L		92
18) 1,1-dichloroethene	2.694	96	8232	3.67	ug/L		94
19) acetone	2.700	58	5037	15.74	ug/L		89
20) acetonitrile	2.883	41	18567	39.13	ug/L		99
21) iodomethane	2.804	142	979	0.77	ug/L		90
22) carbon disulfide	2.858	76	22048	3.89	ug/L		99
23) methylene chloride	3.011	84	9251	4.09	ug/L		95
24) methyl acetate	2.901	43	10372	4.10	ug/L		95
25) methyl tert butyl ether	3.182	73	27943	3.89	ug/L		93
26) trans-1,2-dichloroethene	3.194	96	9026	3.80	ug/L		93
27) di-isopropyl ether	3.480	45	31258	3.84	ug/L		95
28) 2-butanone	3.840	72	6610	14.63	ug/L	#	84
29) 1,1-dichloroethane	3.486	63	15886	3.82	ug/L		99
30) chloroprene	3.535	53	15118	3.80	ug/L		98
31) acrylonitrile	3.151	53	5024	3.99	ug/L		97
32) hexane	3.371	56	7847	3.92	ug/L		91
33) vinyl acetate	3.462	86	2616	3.70	ug/L		96
34) ethyl tert-butyl ether	3.724	59	30189	3.89	ug/L		100
35) ethyl acetate	3.852	45	2266	4.33	ug/L	#	63
36) 2,2-dichloropropane	3.883	77	13187	3.81	ug/L		97
37) cis-1,2-dichloroethene	3.870	96	10098	3.94	ug/L		96
38) methyl acrylate	3.895	85	1879	3.57	ug/L	#	52
39) propionitrile	3.883	54	21485	40.00	ug/L		92
40) bromochloromethane	4.029	128	4621	3.96	ug/L		93
41) tetrahydrofuran	4.041	72	1822	3.60	ug/L	#	73
42) chloroform	4.090	85	10044	3.96	ug/L		96
43) t-butyl formate	4.108	59	8335	3.56	ug/L		92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145274.D
Acq On : 7 Mar 2019 8:17 pm
Operator : juntaep
Sample : ic6212-4
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 08 17:34:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) methacrylonitrile	3.986	67	5028	3.76	ug/L		96
46) 1,1,1-trichloroethane	4.230	97	13751	3.77	ug/L		93
47) cyclohexane	4.291	84	15082	3.93	ug/L		97
48) 1,1-dichloropropene	4.334	75	12469	3.72	ug/L		93
49) iso-butyl alcohol	4.334	43	8236	40.16	ug/L		92
50) carbon tetrachloride	4.340	117	11518	3.75	ug/L		96
51) tert amyl alcohol	4.425	55	3706	20.55	ug/L		93
54) n-butyl alcohol	4.809	56	27781	188.28	ug/L		96
55) 2,2,4-trimethylpentane	4.547	57	24618	3.99	ug/L		96
56) benzene	4.480	78	37112	3.93	ug/L		100
57) tert-amyl methyl ether	4.541	87	7245	3.90	ug/L		99
58) heptane	4.663	71	6220	3.83	ug/L		95
59) isopropyl acetate	4.450	87	3023	3.78	ug/L	#	85
60) 1,2-dichloroethane	4.504	62	12702	4.13	ug/L		98
61) trichloroethene	4.950	130	9735	3.79	ug/L		97
62) ethyl acrylate	4.962	55	15722	3.90	ug/L		98
63) 2-nitropropane	5.486	41	2763	3.93	ug/L	#	85
64) 2-chloroethyl vinyl ether	5.523	63	30501	17.40	ug/L		98
65) methyl methacrylate	5.145	69	11462	3.80	ug/L		87
66) 1,2-dichloropropane	5.145	63	9014	3.88	ug/L		95
67) dibromomethane	5.212	93	5581	4.04	ug/L		99
68) methylcyclohexane	5.138	83	16352	4.13	ug/L		98
69) bromodichloromethane	5.334	83	11010	3.78	ug/L		99
70) epichlorohydrin	5.571	57	7442	18.34	ug/L		98
71) cis-1,3-dichloropropene	5.669	75	14076	3.75	ug/L		98
72) 4-methyl-2-pentanone	5.766	58	21094	15.68	ug/L		97
73) 3-methyl-1-butanol	5.791	55	16105	73.84	ug/L		98
76) toluene	5.955	92	24466	4.06	ug/L		96
77) trans-1,3-dichloropropene	6.120	75	12880	3.73	ug/L		97
78) ethyl methacrylate	6.144	69	13965	3.71	ug/L		96
79) 1,1,2-trichloroethane	6.291	83	6903	3.92	ug/L		95
80) tetrachloroethene	6.394	164	8263	3.81	ug/L		96
81) 1,3-dichloropropane	6.437	76	14028	3.81	ug/L		91
82) 2-hexanone	6.455	58	21889	15.47	ug/L		99
83) butyl acetate	6.547	56	8621	3.82	ug/L		92
84) dibromochloromethane	6.626	129	7806	3.54	ug/L		98
85) 1,2-dibromoethane	6.742	107	10622	3.82	ug/L		99
86) n-butyl ether	7.223	57	37910	3.79	ug/L		99
87) chlorobenzene	7.169	112	25362	3.93	ug/L		98
88) 1,1,1,2-tetrachloroethane	7.242	131	7692	3.44	ug/L		95
89) ethylbenzene	7.248	91	43717	3.86	ug/L		99
90) m,p-xylene	7.364	106	33934	7.69	ug/L		98
91) o-xylene	7.717	106	16729	3.96	ug/L		95
92) styrene	7.736	104	28020	3.82	ug/L		97
93) bromoform	7.912	173	5176	3.14	ug/L		97
94) butyl acrylate	7.638	55	19858	3.60	ug/L		96
95) n-amyl acetate	7.845	70	8439	3.68	ug/L		91
96) isopropylbenzene	8.053	105	42124	3.87	ug/L		99
97) cis-1,4-dichloro-2-butene	8.101	88	4113	3.21	ug/L		91
100) bromobenzene	8.370	156	11094	3.94	ug/L		96
101) 1,1,2,2-tetrachloroethane	8.339	83	12087	3.76	ug/L		99
102) trans-1,4-dichloro-2-b...	8.370	53	3474	3.70	ug/L		91
103) 1,2,3-trichloropropane	8.400	110	4333	4.12	ug/L		98
104) n-propylbenzene	8.449	91	46435	3.79	ug/L		97
105) 2-chlorotoluene	8.546	126	9810	3.84	ug/L	#	85
106) 4-chlorotoluene	8.656	126	9616	3.76	ug/L		93
107) 1,3,5-trimethylbenzene	8.620	105	32915	3.81	ug/L		95
108) tert-butylbenzene	8.930	134	7489	3.96	ug/L	#	83

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145274.D
Acq On : 7 Mar 2019 8:17 pm
Operator : juntaep
Sample : ic6212-4
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 08 17:34:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

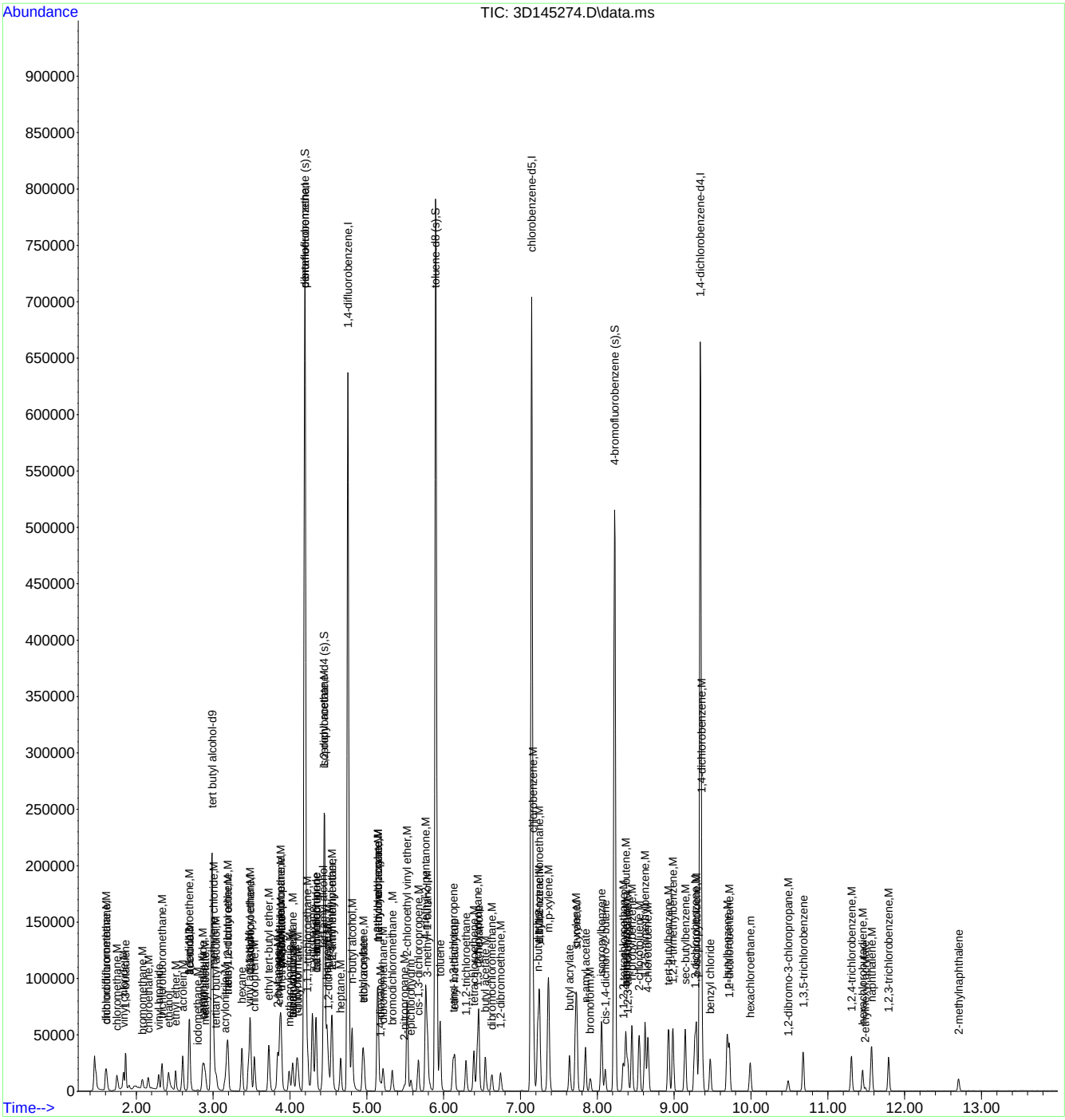
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	32108	3.75 ug/L	97
110) sec-butylbenzene	9.144	105	38285	3.73 ug/L	98
111) 1,3-dichlorobenzene	9.266	146	18899	3.83 ug/L	99
112) p-isopropyltoluene	9.290	119	33214	3.76 ug/L	98
113) 1,4-dichlorobenzene	9.363	146	19637	3.92 ug/L	97
114) benzyl chloride	9.467	91	21516	3.40 ug/L	99
115) 1,2-dichlorobenzene	9.717	146	18038	3.87 ug/L	98
116) n-butylbenzene	9.692	92	15010	3.74 ug/L	97
117) 1,2-dibromo-3-chloropr...	10.479	75	2337	3.41 ug/L	84
118) 1,3,5-trichlorobenzene	10.680	180	12523	3.69 ug/L	97
119) 2-ethylhexyl acrylate	11.485	70	858	0.51 ug/L	90
120) 1,2,4-trichlorobenzene	11.308	180	11079	3.67 ug/L	99
121) hexachlorobutadiene	11.454	225	4274	3.60 ug/L	98
122) naphthalene	11.570	128	33511	3.55 ug/L	98
123) 1,2,3-trichlorobenzene	11.790	180	10142	3.58 ug/L	96
124) hexachloroethane	9.991	201	4265	3.22 ug/L #	78
125) 2-methylnaphthalene	12.704	142	5930	1.43 ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145274.D
Acq On : 7 Mar 2019 8:17 pm
Operator : juntaep
Sample : ic6212-4
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 08 17:34:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145275.D
Acq On : 7 Mar 2019 8:43 pm
Operator : juntaep
Sample : ic6212-8
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 08 17:34:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.987	65	214029	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	324423	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.755	114	448674	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	378727	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	179943	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.200	113	115608	49.58	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.16%				
53) 1,2-dichloroethane-d4 (s)	4.450	65	127721	51.84	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 103.68%				
75) toluene-d8 (s)	5.901	98	486065	50.75	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.50%				
99) 4-bromofluorobenzene (s)	8.223	95	169070	49.71	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.42%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.035	59	21349	40.10	ug/L		90
3) ethanol	2.420	45	40807	839.76	ug/L		96
4) 1,4-dioxane	5.181	88	10223	208.07	ug/L		95
6) chlorodifluoromethane	1.615	51	23084	7.80	ug/L		99
7) dichlorodifluoromethane	1.603	85	26446	7.65	ug/L		99
8) chloromethane	1.749	50	23673	7.80	ug/L		97
9) vinyl chloride	1.834	62	25090	7.75	ug/L		98
10) 1,3-butadiene	1.859	54	20248	8.11	ug/L		97
11) bromomethane	2.078	94	9625	8.23	ug/L		97
12) chloroethane	2.157	64	14604	7.68	ug/L		96
13) trichlorofluoromethane	2.334	101	30988	7.73	ug/L		98
14) vinyl bromide	2.292	106	14152	7.57	ug/L		98
15) ethyl ether	2.511	74	11264	7.71	ug/L		98
16) acrolein	2.609	56	4342	7.47	ug/L		97
17) freon 113	2.688	151	16541	7.86	ug/L		95
18) 1,1-dichloroethene	2.694	96	17467	7.80	ug/L		96
19) acetone	2.694	58	10221	32.04	ug/L		99
20) acetonitrile	2.883	41	38139	80.63	ug/L		99
21) iodomethane	2.804	142	2979	2.35	ug/L		90
22) carbon disulfide	2.859	76	44320	7.83	ug/L		99
23) methylene chloride	3.011	84	18345	8.13	ug/L		97
24) methyl acetate	2.901	43	20370	8.07	ug/L		99
25) methyl tert butyl ether	3.176	73	57960	8.10	ug/L		99
26) trans-1,2-dichloroethene	3.194	96	18755	7.91	ug/L		95
27) di-isopropyl ether	3.480	45	64160	7.91	ug/L		99
28) 2-butanone	3.840	72	14316	31.78	ug/L		100
29) 1,1-dichloroethane	3.486	63	32716	7.89	ug/L		99
30) chloroprene	3.535	53	31750	8.01	ug/L		95
31) acrylonitrile	3.151	53	9945	7.92	ug/L		92
32) hexane	3.377	56	16020	8.02	ug/L		91
33) vinyl acetate	3.456	86	5501	7.81	ug/L	#	92
34) ethyl tert-butyl ether	3.724	59	61444	7.94	ug/L		99
35) ethyl acetate	3.852	45	4510	8.64	ug/L		96
36) 2,2-dichloropropane	3.883	77	27552	7.99	ug/L		99
37) cis-1,2-dichloroethene	3.871	96	20476	8.02	ug/L		99
38) methyl acrylate	3.895	85	3956	7.53	ug/L	#	83
39) propionitrile	3.877	54	42865	80.04	ug/L		77
40) bromochloromethane	4.035	128	9165	7.88	ug/L		99
41) tetrahydrofuran	4.041	72	3820	7.57	ug/L		85
42) chloroform	4.090	85	20620	8.16	ug/L		96
43) t-butyl formate	4.108	59	17298	7.42	ug/L		91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145275.D
Acq On : 7 Mar 2019 8:43 pm
Operator : juntaep
Sample : ic6212-8
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 08 17:34:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) methacrylonitrile	3.992	67	10501	7.88	ug/L		96
46) 1,1,1-trichloroethane	4.230	97	28459	7.82	ug/L		91
47) cyclohexane	4.291	84	29460	7.70	ug/L		99
48) 1,1-dichloropropene	4.334	75	26847	8.04	ug/L		96
49) iso-butyl alcohol	4.334	43	16162	79.05	ug/L		97
50) carbon tetrachloride	4.346	117	24272	7.92	ug/L		97
51) tert amyl alcohol	4.425	55	7143	39.73	ug/L		90
54) n-butyl alcohol	4.809	56	56481	383.14	ug/L		98
55) 2,2,4-trimethylpentane	4.547	57	50877	8.25	ug/L		98
56) benzene	4.480	78	76139	8.08	ug/L		98
57) tert-amyl methyl ether	4.541	87	15138	8.15	ug/L		95
58) heptane	4.663	71	13148	8.10	ug/L		93
59) isopropyl acetate	4.450	87	6197	7.76	ug/L	#	94
60) 1,2-dichloroethane	4.505	62	25551	8.31	ug/L		99
61) trichloroethene	4.950	130	20475	7.97	ug/L		98
62) ethyl acrylate	4.962	55	31693	7.87	ug/L		99
63) 2-nitropropane	5.486	41	5194	7.39	ug/L		95
64) 2-chloroethyl vinyl ether	5.523	63	65367	37.33	ug/L		100
65) methyl methacrylate	5.145	69	23712	7.87	ug/L		92
66) 1,2-dichloropropane	5.145	63	18376	7.92	ug/L		98
67) dibromomethane	5.212	93	10936	7.92	ug/L		91
68) methylcyclohexane	5.139	83	32483	8.22	ug/L		98
69) bromodichloromethane	5.334	83	22241	7.64	ug/L		99
70) epichlorohydrin	5.571	57	15260	37.64	ug/L		96
71) cis-1,3-dichloropropene	5.669	75	29227	7.79	ug/L		98
72) 4-methyl-2-pentanone	5.767	58	43272	32.19	ug/L		99
73) 3-methyl-1-butanol	5.791	55	32825	150.64	ug/L		99
76) toluene	5.955	92	48447	8.13	ug/L		96
77) trans-1,3-dichloropropene	6.120	75	26449	7.75	ug/L		98
78) ethyl methacrylate	6.144	69	29312	7.89	ug/L		99
79) 1,1,2-trichloroethane	6.291	83	13842	7.96	ug/L		97
80) tetrachloroethene	6.394	164	17156	8.01	ug/L		97
81) 1,3-dichloropropane	6.437	76	29005	7.98	ug/L		99
82) 2-hexanone	6.455	58	44474	31.82	ug/L		99
83) butyl acetate	6.541	56	17309	7.76	ug/L		97
84) dibromochloromethane	6.626	129	15982	7.33	ug/L		96
85) 1,2-dibromoethane	6.742	107	21583	7.87	ug/L		92
86) n-butyl ether	7.224	57	80306	8.14	ug/L		99
87) chlorobenzene	7.169	112	51081	8.01	ug/L		98
88) 1,1,1,2-tetrachloroethane	7.242	131	16597	7.52	ug/L		97
89) ethylbenzene	7.248	91	89951	8.04	ug/L		99
90) m,p-xylene	7.364	106	70121	16.09	ug/L		99
91) o-xylene	7.717	106	33614	8.05	ug/L		98
92) styrene	7.736	104	57461	7.94	ug/L		98
93) bromoform	7.912	173	11332	6.97	ug/L		95
94) butyl acrylate	7.638	55	41179	7.57	ug/L		96
95) n-amyl acetate	7.845	70	17468	7.71	ug/L		97
96) isopropylbenzene	8.059	105	86636	8.06	ug/L		99
97) cis-1,4-dichloro-2-butene	8.108	88	8484	6.70	ug/L		98
100) bromobenzene	8.370	156	22075	7.84	ug/L		97
101) 1,1,2,2-tetrachloroethane	8.339	83	24931	7.75	ug/L		94
102) trans-1,4-dichloro-2-b...	8.370	53	6873	7.31	ug/L		98
103) 1,2,3-trichloropropane	8.400	110	8687	8.24	ug/L		97
104) n-propylbenzene	8.449	91	95019	7.75	ug/L		98
105) 2-chlorotoluene	8.546	126	19938	7.80	ug/L		91
106) 4-chlorotoluene	8.662	126	19963	7.80	ug/L		96
107) 1,3,5-trimethylbenzene	8.620	105	68365	7.90	ug/L		97
108) tert-butylbenzene	8.924	134	15111	7.98	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145275.D
Acq On : 7 Mar 2019 8:43 pm
Operator : juntaep
Sample : ic6212-8
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 08 17:34:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

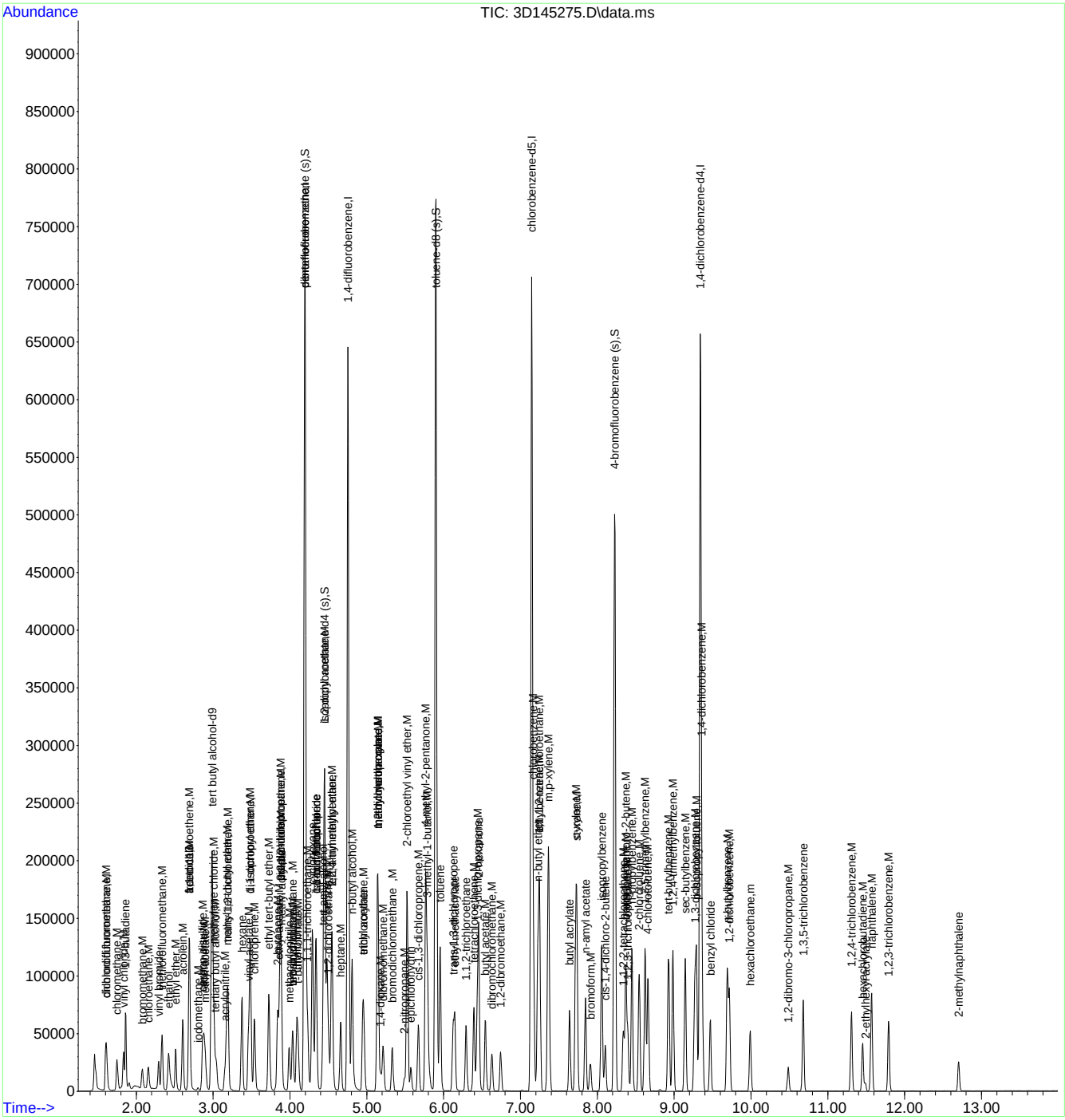
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	68448	7.98	ug/L		99
110) sec-butylbenzene	9.144	105	81245	7.91	ug/L		98
111) 1,3-dichlorobenzene	9.266	146	39295	7.96	ug/L		99
112) p-isopropyltoluene	9.290	119	69803	7.90	ug/L		99
113) 1,4-dichlorobenzene	9.363	146	39827	7.94	ug/L		97
114) benzyl chloride	9.473	91	44948	7.09	ug/L		100
115) 1,2-dichlorobenzene	9.717	146	37170	7.96	ug/L		97
116) n-butylbenzene	9.693	92	31060	7.72	ug/L		99
117) 1,2-dibromo-3-chloropr...	10.485	75	4731	6.90	ug/L		98
118) 1,3,5-trichlorobenzene	10.680	180	26399	7.77	ug/L		99
119) 2-ethylhexyl acrylate	11.491	70	2107	1.24	ug/L	#	82
120) 1,2,4-trichlorobenzene	11.308	180	22705	7.51	ug/L		98
121) hexachlorobutadiene	11.454	225	9286	7.82	ug/L		98
122) naphthalene	11.570	128	68898	7.29	ug/L		99
123) 1,2,3-trichlorobenzene	11.796	180	21551	7.60	ug/L		94
124) hexachloroethane	9.991	201	8837	6.67	ug/L		89
125) 2-methylnaphthalene	12.704	142	13035	3.13	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145275.D
Acq On : 7 Mar 2019 8:43 pm
Operator : juntaep
Sample : ic6212-8
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 08 17:34:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145276.D
Acq On : 7 Mar 2019 9:08 pm
Operator : juntaep
Sample : ic6212-20
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 08 17:34:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.987	65	214460	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	322889	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.755	114	449969	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	382190	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.345	152	177453	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	115082	49.59	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.18%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	123039	49.80	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 99.60%			
75) toluene-d8 (s)	5.895	98	488236	50.52	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.04%			
99) 4-bromofluorobenzene (s)	8.223	95	167945	50.07	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.14%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.035	59	53732	100.71	ug/L	99
3) ethanol	2.420	45	100168	2057.20	ug/L	96
4) 1,4-dioxane	5.181	88	25748	522.99	ug/L	98
6) chlorodifluoromethane	1.615	51	58572	19.88	ug/L	98
7) dichlorodifluoromethane	1.597	85	68431	19.88	ug/L	99
8) chloromethane	1.749	50	59675	19.77	ug/L	98
9) vinyl chloride	1.828	62	63772	19.79	ug/L	99
10) 1,3-butadiene	1.859	54	50193	20.20	ug/L	99
11) bromomethane	2.072	94	23942	20.58	ug/L	99
12) chloroethane	2.151	64	37570	19.84	ug/L	97
13) trichlorofluoromethane	2.334	101	78391	19.64	ug/L	99
14) vinyl bromide	2.285	106	36407	19.57	ug/L	99
15) ethyl ether	2.511	74	28494	19.59	ug/L	98
16) acrolein	2.609	56	11024	19.06	ug/L	97
17) freon 113	2.688	151	42430	20.27	ug/L	99
18) 1,1-dichloroethene	2.688	96	44997	20.19	ug/L	99
19) acetone	2.694	58	25093	79.02	ug/L	98
20) acetonitrile	2.883	41	93960	199.57	ug/L	99
21) iodomethane	2.804	142	13238	10.50	ug/L	96
22) carbon disulfide	2.859	76	112583	20.00	ug/L	99
23) methylene chloride	3.011	84	44932	20.02	ug/L	99
24) methyl acetate	2.901	43	51595	20.55	ug/L	99
25) methyl tert butyl ether	3.176	73	143770	20.19	ug/L	98
26) trans-1,2-dichloroethene	3.194	96	47116	19.97	ug/L	98
27) di-isopropyl ether	3.480	45	160380	19.87	ug/L	99
28) 2-butanone	3.834	72	35225	78.56	ug/L	92
29) 1,1-dichloroethane	3.486	63	81547	19.75	ug/L	99
30) chloroprene	3.535	53	78349	19.85	ug/L	99
31) acrylonitrile	3.151	53	24661	19.73	ug/L	100
32) hexane	3.377	56	39702	19.97	ug/L	95
33) vinyl acetate	3.456	86	14314	20.43	ug/L	94
34) ethyl tert-butyl ether	3.724	59	153427	19.93	ug/L	99
35) ethyl acetate	3.846	45	10380	19.98	ug/L #	20
36) 2,2-dichloropropane	3.877	77	70134	20.44	ug/L	99
37) cis-1,2-dichloroethene	3.864	96	51548	20.27	ug/L	98
38) methyl acrylate	3.895	85	10166	19.44	ug/L	91
39) propionitrile	3.877	54	106571	199.95	ug/L	80
40) bromochloromethane	4.035	128	23614	20.39	ug/L	94
41) tetrahydrofuran	4.041	72	9748	19.42	ug/L	97
42) chloroform	4.084	85	50273	19.98	ug/L	98
43) t-butyl formate	4.102	59	45797	19.73	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145276.D
Acq On : 7 Mar 2019 9:08 pm
Operator : juntaep
Sample : ic6212-20
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 08 17:34:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) methacrylonitrile	3.986	67	25793	19.44	ug/L	98
46) 1,1,1-trichloroethane	4.230	97	72555	20.03	ug/L	99
47) cyclohexane	4.291	84	75708	19.89	ug/L	100
48) 1,1-dichloropropene	4.334	75	66565	20.04	ug/L	98
49) iso-butyl alcohol	4.334	43	39978	196.46	ug/L	97
50) carbon tetrachloride	4.340	117	60449	19.82	ug/L	98
51) tert amyl alcohol	4.425	55	18365	102.64	ug/L	98
54) n-butyl alcohol	4.809	56	145910	986.94	ug/L	99
55) 2,2,4-trimethylpentane	4.547	57	124506	20.13	ug/L	98
56) benzene	4.480	78	192469	20.37	ug/L	100
57) tert-amyl methyl ether	4.541	87	37810	20.30	ug/L	97
58) heptane	4.657	71	32526	19.98	ug/L	98
59) isopropyl acetate	4.450	87	16157	20.17	ug/L	98
60) 1,2-dichloroethane	4.505	62	62036	20.12	ug/L	98
61) trichloroethene	4.950	130	51876	20.13	ug/L	99
62) ethyl acrylate	4.962	55	81424	20.17	ug/L	99
63) 2-nitropropane	5.486	41	13346	18.93	ug/L	98
64) 2-chloroethyl vinyl ether	5.523	63	171901	97.89	ug/L	99
65) methyl methacrylate	5.145	69	59811	19.79	ug/L	97
66) 1,2-dichloropropane	5.145	63	46416	19.94	ug/L	98
67) dibromomethane	5.212	93	27702	20.00	ug/L	96
68) methylcyclohexane	5.139	83	79255	19.99	ug/L	99
69) bromodichloromethane	5.334	83	57134	19.57	ug/L	97
70) epichlorohydrin	5.571	57	40063	98.52	ug/L	96
71) cis-1,3-dichloropropene	5.669	75	74699	19.86	ug/L	99
72) 4-methyl-2-pentanone	5.767	58	108630	80.59	ug/L	98
73) 3-methyl-1-butanol	5.785	55	84061	384.65	ug/L	92
76) toluene	5.955	92	120858	20.10	ug/L	98
77) trans-1,3-dichloropropene	6.120	75	67676	19.64	ug/L	99
78) ethyl methacrylate	6.144	69	74718	19.92	ug/L	99
79) 1,1,2-trichloroethane	6.291	83	35382	20.16	ug/L	98
80) tetrachloroethene	6.394	164	43464	20.11	ug/L	98
81) 1,3-dichloropropane	6.437	76	73654	20.08	ug/L	97
82) 2-hexanone	6.455	58	112809	79.97	ug/L	99
83) butyl acetate	6.541	56	43882	19.50	ug/L	98
84) dibromochloromethane	6.626	129	41603	18.91	ug/L	99
85) 1,2-dibromoethane	6.742	107	54853	19.81	ug/L	98
86) n-butyl ether	7.224	57	198455	19.93	ug/L	99
87) chlorobenzene	7.169	112	127512	19.82	ug/L	98
88) 1,1,1,2-tetrachloroethane	7.242	131	43425	19.49	ug/L	98
89) ethylbenzene	7.248	91	226971	20.09	ug/L	100
90) m,p-xylene	7.364	106	176215	40.07	ug/L	99
91) o-xylene	7.717	106	84318	20.01	ug/L	98
92) styrene	7.736	104	144950	19.84	ug/L	98
93) bromoform	7.912	173	30738	18.72	ug/L	96
94) butyl acrylate	7.638	55	107555	19.59	ug/L	99
95) n-amyl acetate	7.845	70	45221	19.77	ug/L	99
96) isopropylbenzene	8.059	105	216974	20.00	ug/L	100
97) cis-1,4-dichloro-2-butene	8.101	88	23361	18.27	ug/L	97
100) bromobenzene	8.370	156	55769	20.07	ug/L	97
101) 1,1,2,2-tetrachloroethane	8.339	83	62221	19.61	ug/L	99
102) trans-1,4-dichloro-2-b...	8.370	53	18237	19.66	ug/L	95
103) 1,2,3-trichloropropane	8.400	110	21000	20.20	ug/L	98
104) n-propylbenzene	8.449	91	244019	20.19	ug/L	98
105) 2-chlorotoluene	8.546	126	51290	20.34	ug/L	94
106) 4-chlorotoluene	8.662	126	50649	20.07	ug/L	94
107) 1,3,5-trimethylbenzene	8.620	105	172798	20.25	ug/L	99
108) tert-butylbenzene	8.931	134	38390	20.56	ug/L	93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145276.D
Acq On : 7 Mar 2019 9:08 pm
Operator : juntaep
Sample : ic6212-20
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 08 17:34:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

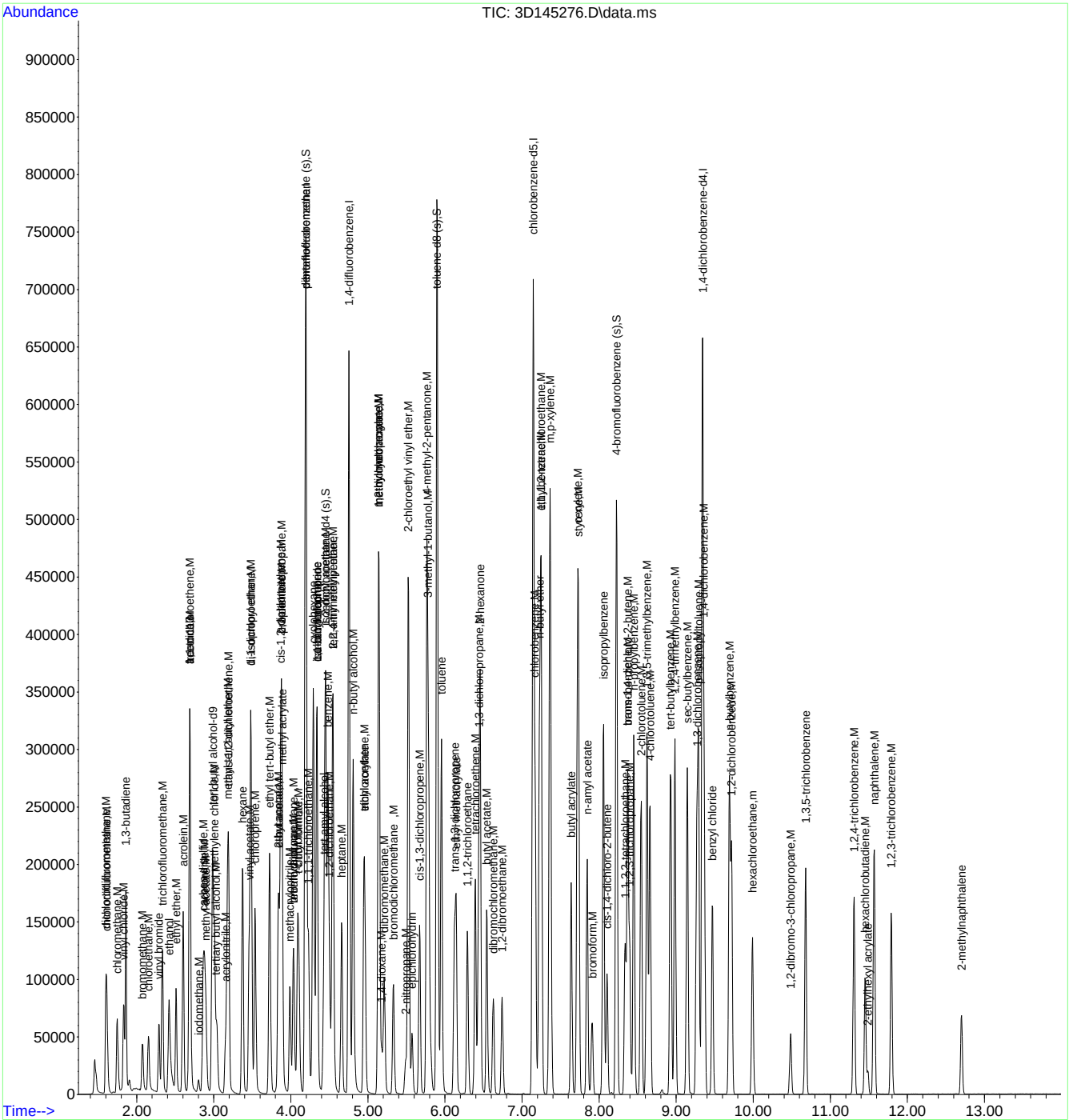
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	168705	19.94	ug/L	98
110) sec-butylbenzene	9.144	105	203497	20.09	ug/L	100
111) 1,3-dichlorobenzene	9.266	146	98501	20.24	ug/L	98
112) p-isopropyltoluene	9.290	119	173222	19.88	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	99527	20.13	ug/L	99
114) benzyl chloride	9.473	91	120718	19.32	ug/L	98
115) 1,2-dichlorobenzene	9.717	146	94796	20.58	ug/L	99
116) n-butylbenzene	9.693	92	78565	19.81	ug/L	100
117) 1,2-dibromo-3-chloropr...	10.485	75	12599	18.64	ug/L	95
118) 1,3,5-trichlorobenzene	10.680	180	65914	19.67	ug/L	100
119) 2-ethylhexyl acrylate	11.485	70	5632	3.37	ug/L	97
120) 1,2,4-trichlorobenzene	11.308	180	58739	19.69	ug/L	99
121) hexachlorobutadiene	11.448	225	22686	19.38	ug/L	98
122) naphthalene	11.570	128	181308	19.45	ug/L	98
123) 1,2,3-trichlorobenzene	11.790	180	53636	19.18	ug/L	98
124) hexachloroethane	9.991	201	23827	18.24	ug/L	93
125) 2-methylnaphthalene	12.704	142	35423	8.64	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145276.D
Acq On : 7 Mar 2019 9:08 pm
Operator : juntaep
Sample : ic6212-20
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 08 17:34:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145277.D
Acq On : 7 Mar 2019 9:33 pm
Operator : juntaep
Sample : icc6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 08 17:34:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.986	65	225616	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	332373	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	464326	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	393376	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	184438	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	119445	50.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.00%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	128353	50.34	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 100.68%			
75) toluene-d8 (s)	5.901	98	497397	50.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.00%			
99) 4-bromofluorobenzene (s)	8.223	95	174305	50.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.00%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.041	59	140319	250.00	ug/L	100
3) ethanol	2.420	45	256122	5000.00	ug/L	100
4) 1,4-dioxane	5.181	88	64742	1250.00	ug/L	100
6) chlorodifluoromethane	1.615	51	151664	50.00	ug/L	100
7) dichlorodifluoromethane	1.597	85	177188	50.00	ug/L	100
8) chloromethane	1.749	50	155385	50.00	ug/L	100
9) vinyl chloride	1.834	62	165887	50.00	ug/L	100
10) 1,3-butadiene	1.859	54	127906	50.00	ug/L	100
11) bromomethane	2.072	94	59884	50.00	ug/L	100
12) chloroethane	2.151	64	97454	50.00	ug/L	100
13) trichlorofluoromethane	2.328	101	205448	50.00	ug/L	100
14) vinyl bromide	2.285	106	95734	50.00	ug/L	100
15) ethyl ether	2.511	74	74860	50.00	ug/L	100
16) acrolein	2.609	56	29770	50.00	ug/L	100
17) freon 113	2.688	151	107739	50.00	ug/L	100
18) 1,1-dichloroethene	2.688	96	114687	50.00	ug/L	100
19) acetone	2.694	58	65374	200.00	ug/L	100
20) acetonitrile	2.883	41	242315	500.00	ug/L	100
21) iodomethane	2.804	142	64891	50.00	ug/L	100
22) carbon disulfide	2.858	76	289789	50.00	ug/L	100
23) methylene chloride	3.011	84	115527	50.00	ug/L	100
24) methyl acetate	2.901	43	130263	50.40	ug/L	100
25) methyl tert butyl ether	3.175	73	366459	50.00	ug/L	100
26) trans-1,2-dichloroethene	3.194	96	121438	50.00	ug/L	100
27) di-isopropyl ether	3.480	45	415440	50.00	ug/L	100
28) 2-butanone	3.834	72	92314	200.00	ug/L	100
29) 1,1-dichloroethane	3.486	63	208385	49.02	ug/L	100
30) chloroprene	3.535	53	203116	50.00	ug/L	100
31) acrylonitrile	3.151	53	64344	50.00	ug/L	100
32) hexane	3.371	56	102305	50.00	ug/L	100
33) vinyl acetate	3.456	86	36404	50.47	ug/L	99
34) ethyl tert-butyl ether	3.724	59	396276	50.00	ug/L	100
35) ethyl acetate	3.852	45	27279	51.00	ug/L	99
36) 2,2-dichloropropane	3.877	77	176630	50.00	ug/L	100
37) cis-1,2-dichloroethene	3.870	96	130857	50.00	ug/L	100
38) methyl acrylate	3.895	85	26916	50.00	ug/L	100
39) propionitrile	3.883	54	274326	500.00	ug/L	100
40) bromochloromethane	4.035	128	59599	50.00	ug/L	100
41) tetrahydrofuran	4.041	72	24711	47.82	ug/L	97
42) chloroform	4.084	85	129477	50.00	ug/L	100
43) t-butyl formate	4.108	59	119464	50.00	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145277.D
Acq On : 7 Mar 2019 9:33 pm
Operator : juntaep
Sample : icc6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 08 17:34:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) methacrylonitrile	3.986	67	68274	50.00	ug/L	100
46) 1,1,1-trichloroethane	4.230	97	186407	50.00	ug/L	100
47) cyclohexane	4.291	84	195783	49.96	ug/L	100
48) 1,1-dichloropropene	4.334	75	170975	50.00	ug/L	100
49) iso-butyl alcohol	4.334	43	107309	512.29	ug/L	100
50) carbon tetrachloride	4.346	117	157007	50.00	ug/L	100
51) tert amyl alcohol	4.425	55	45946	249.46	ug/L	100
54) n-butyl alcohol	4.809	56	380621	2494.92	ug/L	100
55) 2,2,4-trimethylpentane	4.547	57	319183	50.00	ug/L	100
56) benzene	4.480	78	487606	50.00	ug/L	100
57) tert-amyl methyl ether	4.547	87	96122	50.00	ug/L	100
58) heptane	4.657	71	83986	50.00	ug/L	100
59) isopropyl acetate	4.450	87	41332	50.00	ug/L	100
60) 1,2-dichloroethane	4.498	62	159068	50.00	ug/L	100
61) trichloroethene	4.950	130	132954	50.00	ug/L	100
62) ethyl acrylate	4.962	55	208324	50.02	ug/L	100
63) 2-nitropropane	5.486	41	36383	50.00	ug/L	100
64) 2-chloroethyl vinyl ether	5.523	63	453004	250.00	ug/L	100
65) methyl methacrylate	5.145	69	155930	50.00	ug/L	100
66) 1,2-dichloropropane	5.145	63	120079	50.00	ug/L	100
67) dibromomethane	5.212	93	71470	50.00	ug/L	100
68) methylcyclohexane	5.139	83	204584	50.00	ug/L	100
69) bromodichloromethane	5.334	83	150623	50.00	ug/L	100
70) epichlorohydrin	5.571	57	104901	250.00	ug/L	100
71) cis-1,3-dichloropropene	5.669	75	194107	50.00	ug/L	100
72) 4-methyl-2-pentanone	5.766	58	278190	200.00	ug/L	100
73) 3-methyl-1-butanol	5.791	55	225510	1000.00	ug/L	100
76) toluene	5.955	92	309451	50.00	ug/L	100
77) trans-1,3-dichloropropene	6.120	75	177300	50.00	ug/L	100
78) ethyl methacrylate	6.144	69	193039	50.00	ug/L	100
79) 1,1,2-trichloroethane	6.291	83	90337	50.00	ug/L	100
80) tetrachloroethene	6.394	164	111227	50.00	ug/L	100
81) 1,3-dichloropropane	6.437	76	188800	50.00	ug/L	100
82) 2-hexanone	6.455	58	290368	200.00	ug/L	100
83) butyl acetate	6.541	56	115839	50.00	ug/L	100
84) dibromochloromethane	6.626	129	113241	50.00	ug/L	100
85) 1,2-dibromoethane	6.742	107	142476	50.00	ug/L	100
86) n-butyl ether	7.223	57	512502	50.00	ug/L	100
87) chlorobenzene	7.175	112	331096	50.00	ug/L	100
88) 1,1,1,2-tetrachloroethane	7.242	131	114643	50.00	ug/L	100
89) ethylbenzene	7.248	91	581326	50.00	ug/L	100
90) m,p-xylene	7.364	106	452660	100.00	ug/L	100
91) o-xylene	7.717	106	216822	50.00	ug/L	100
92) styrene	7.736	104	376063	50.00	ug/L	100
93) bromoform	7.912	173	84485	50.00	ug/L	100
94) butyl acrylate	7.638	55	282593	50.00	ug/L	100
95) n-amyl acetate	7.845	70	117729	50.00	ug/L	100
96) isopropylbenzene	8.059	105	558401	50.00	ug/L	100
97) cis-1,4-dichloro-2-butene	8.101	88	65806	50.00	ug/L	100
100) bromobenzene	8.370	156	144372	50.00	ug/L	100
101) 1,1,2,2-tetrachloroethane	8.339	83	164872	50.00	ug/L	100
102) trans-1,4-dichloro-2-b...	8.370	53	48217	50.00	ug/L	100
103) 1,2,3-trichloropropane	8.400	110	54018	50.00	ug/L	100
104) n-propylbenzene	8.449	91	628139	50.00	ug/L	100
105) 2-chlorotoluene	8.546	126	131052	50.00	ug/L	100
106) 4-chlorotoluene	8.656	126	131132	50.00	ug/L	100
107) 1,3,5-trimethylbenzene	8.620	105	443537	50.00	ug/L	100
108) tert-butylbenzene	8.924	134	97043	50.00	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145277.D
Acq On : 7 Mar 2019 9:33 pm
Operator : juntaep
Sample : icc6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 08 17:34:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

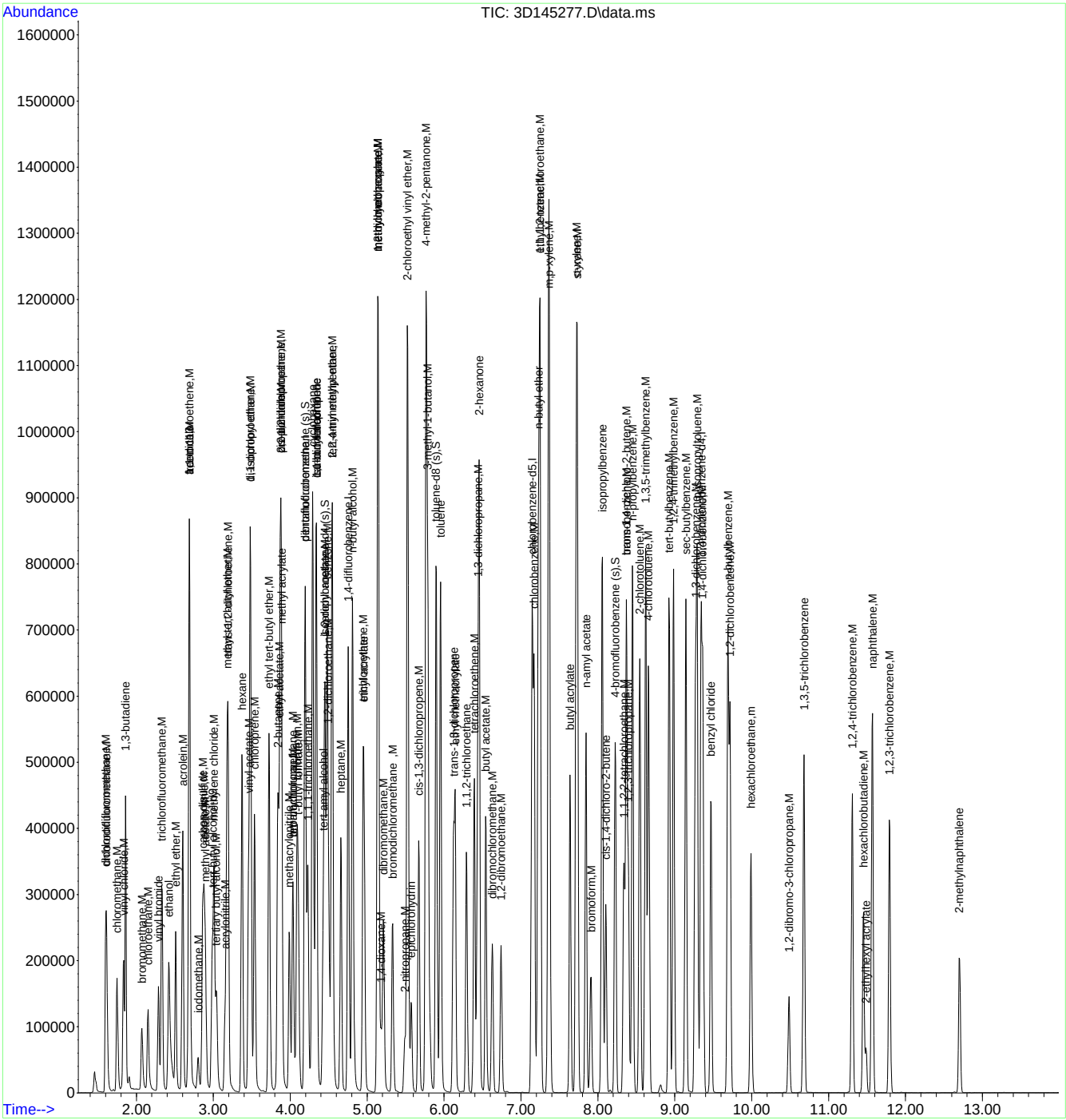
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	439701	50.00	ug/L	100
110) sec-butylbenzene	9.144	105	526280	50.00	ug/L	100
111) 1,3-dichlorobenzene	9.266	146	252953	50.02	ug/L	100
112) p-isopropyltoluene	9.290	119	452845	50.00	ug/L	100
113) 1,4-dichlorobenzene	9.363	146	256952	50.00	ug/L	100
114) benzyl chloride	9.467	91	327604	50.44	ug/L	100
115) 1,2-dichlorobenzene	9.717	146	239429	50.00	ug/L	100
116) n-butylbenzene	9.693	92	206150	50.00	ug/L	100
117) 1,2-dibromo-3-chloropr...	10.485	75	35128	50.00	ug/L	100
118) 1,3,5-trichlorobenzene	10.680	180	174147	50.00	ug/L	100
119) 2-ethylhexyl acrylate	11.485	70	17385	10.00	ug/L	100
120) 1,2,4-trichlorobenzene	11.308	180	154996	50.00	ug/L	100
121) hexachlorobutadiene	11.454	225	60844	50.00	ug/L	100
122) naphthalene	11.570	128	484311	50.00	ug/L	100
123) 1,2,3-trichlorobenzene	11.796	180	145363	50.00	ug/L	100
124) hexachloroethane	9.991	201	67896	50.00	ug/L	100
125) 2-methylnaphthalene	12.704	142	106583	25.00	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145277.D
Acq On : 7 Mar 2019 9:33 pm
Operator : juntaep
Sample : icc6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 08 17:34:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145278.D
Acq On : 7 Mar 2019 9:58 pm
Operator : juntaep
Sample : ic6212-100
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 08 17:34:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.987	65	221946	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	317315	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.755	114	444227	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	384624	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	178165	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.194	113	114157	50.05	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.10%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	122388	50.18	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 100.36%			
75) toluene-d8 (s)	5.901	98	484541	49.82	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.64%			
99) 4-bromofluorobenzene (s)	8.223	95	169516	50.34	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.68%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.041	59	272807	494.08	ug/L	98
3) ethanol	2.426	45	484592	9616.61	ug/L	97
4) 1,4-dioxane	5.181	88	125175	2456.77	ug/L	99
6) chlorodifluoromethane	1.615	51	291548	100.68	ug/L	99
7) dichlorodifluoromethane	1.597	85	332028	98.14	ug/L	99
8) chloromethane	1.749	50	293307	98.86	ug/L	100
9) vinyl chloride	1.834	62	313025	98.83	ug/L	100
10) 1,3-butadiene	1.859	54	244235	100.01	ug/L	99
11) bromomethane	2.060	94	112845	98.69	ug/L	99
12) chloroethane	2.145	64	183417	98.57	ug/L	98
13) trichlorofluoromethane	2.328	101	381653	97.29	ug/L	97
14) vinyl bromide	2.285	106	181609	99.35	ug/L	100
15) ethyl ether	2.511	74	142044	99.38	ug/L	98
16) acrolein	2.609	56	56334	99.11	ug/L	99
17) freon 113	2.682	151	205472	99.88	ug/L	94
18) 1,1-dichloroethene	2.688	96	221484	101.14	ug/L	98
19) acetone	2.694	58	125777	403.05	ug/L	94
20) acetonitrile	2.883	41	470792	1017.55	ug/L	99
21) iodomethane	2.804	142	159900	129.05	ug/L	99
22) carbon disulfide	2.859	76	563887	101.91	ug/L	99
23) methylene chloride	3.011	84	222762	100.99	ug/L	100
24) methyl acetate	2.901	43	255159	103.40	ug/L	100
25) methyl tert butyl ether	3.176	73	708931	101.32	ug/L	98
26) trans-1,2-dichloroethene	3.194	96	231933	100.03	ug/L	97
27) di-isopropyl ether	3.480	45	786540	99.16	ug/L	99
28) 2-butanone	3.834	72	177764	403.41	ug/L	94
29) 1,1-dichloroethane	3.480	63	396587	97.73	ug/L	99
30) chloroprene	3.535	53	387051	99.80	ug/L	99
31) acrylonitrile	3.151	53	124230	101.12	ug/L	99
32) hexane	3.371	56	199532	102.15	ug/L	97
33) vinyl acetate	3.456	86	71322	103.57	ug/L	99
34) ethyl tert-butyl ether	3.724	59	754972	99.78	ug/L	99
35) ethyl acetate	3.852	45	52340	102.50	ug/L	95
36) 2,2-dichloropropane	3.877	77	334657	99.23	ug/L	99
37) cis-1,2-dichloroethene	3.864	96	251934	100.83	ug/L	98
38) methyl acrylate	3.895	85	52180	101.53	ug/L #	87
39) propionitrile	3.883	54	533291	1018.13	ug/L	99
40) bromochloromethane	4.029	128	110731	97.31	ug/L	93
41) tetrahydrofuran	4.041	72	47603	96.48	ug/L	96
42) chloroform	4.090	85	248092	100.35	ug/L	98
43) t-butyl formate	4.108	59	234532	102.82	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145278.D
Acq On : 7 Mar 2019 9:58 pm
Operator : juntaep
Sample : ic6212-100
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 08 17:34:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
45) methacrylonitrile	3.992	67	132101	101.33 ug/L	94
46) 1,1,1-trichloroethane	4.230	97	358647	100.77 ug/L	100
47) cyclohexane	4.291	84	367539	98.23 ug/L	100
48) 1,1-dichloropropene	4.334	75	331423	101.52 ug/L	99
49) iso-butyl alcohol	4.340	43	211427	1057.24 ug/L	99
50) carbon tetrachloride	4.340	117	307898	102.71 ug/L	99
51) tert amyl alcohol	4.431	55	87726	498.91 ug/L	87
54) n-butyl alcohol	4.815	56	745451	5107.41 ug/L	98
55) 2,2,4-trimethylpentane	4.547	57	616818	101.00 ug/L	98
56) benzene	4.480	78	935741	100.29 ug/L	99
57) tert-amyl methyl ether	4.541	87	184162	100.13 ug/L	98
58) heptane	4.657	71	162281	100.98 ug/L	99
59) isopropyl acetate	4.450	87	79634	100.69 ug/L	98
60) 1,2-dichloroethane	4.498	62	299691	98.46 ug/L	99
61) trichloroethene	4.950	130	257175	101.09 ug/L	99
62) ethyl acrylate	4.962	55	403250	101.20 ug/L	98
63) 2-nitropropane	5.486	41	75277	108.13 ug/L	99
64) 2-chloroethyl vinyl ether	5.529	63	885288	510.67 ug/L	99
65) methyl methacrylate	5.145	69	299929	100.53 ug/L	99
66) 1,2-dichloropropane	5.145	63	230447	100.30 ug/L	99
67) dibromomethane	5.212	93	137625	100.64 ug/L	96
68) methylcyclohexane	5.139	83	394955	100.89 ug/L	100
69) bromodichloromethane	5.334	83	294527	102.19 ug/L	98
70) epichlorohydrin	5.578	57	202455	504.32 ug/L	97
71) cis-1,3-dichloropropene	5.669	75	376860	101.47 ug/L	99
72) 4-methyl-2-pentanone	5.766	58	536377	403.07 ug/L	97
73) 3-methyl-1-butanol	5.791	55	440668	2042.51 ug/L	99
76) toluene	5.955	92	604647	99.92 ug/L	99
77) trans-1,3-dichloropropene	6.120	75	347987	100.37 ug/L	99
78) ethyl methacrylate	6.144	69	377236	99.93 ug/L	100
79) 1,1,2-trichloroethane	6.291	83	174526	98.80 ug/L	97
80) tetrachloroethene	6.394	164	215196	98.94 ug/L	98
81) 1,3-dichloropropane	6.437	76	363393	98.43 ug/L	100
82) 2-hexanone	6.455	58	563205	396.75 ug/L	100
83) butyl acetate	6.541	56	220598	97.38 ug/L	97
84) dibromochloromethane	6.626	129	227494	102.73 ug/L	99
85) 1,2-dibromoethane	6.742	107	275502	98.88 ug/L	99
86) n-butyl ether	7.224	57	996951	99.48 ug/L	99
87) chlorobenzene	7.175	112	635636	98.17 ug/L	99
88) 1,1,1,2-tetrachloroethane	7.242	131	225518	100.59 ug/L	99
89) ethylbenzene	7.248	91	1117411	98.30 ug/L	100
90) m,p-xylene	7.364	106	871882	197.00 ug/L	98
91) o-xylene	7.717	106	416538	98.24 ug/L	98
92) styrene	7.736	104	728361	99.04 ug/L	99
93) bromoform	7.912	173	173740	105.16 ug/L	98
94) butyl acrylate	7.638	55	548639	99.28 ug/L	98
95) n-amyl acetate	7.845	70	228839	99.40 ug/L	98
96) isopropylbenzene	8.059	105	1082549	99.14 ug/L	99
97) cis-1,4-dichloro-2-butene	8.101	88	130197	101.18 ug/L	97
100) bromobenzene	8.370	156	276836	99.25 ug/L	99
101) 1,1,2,2-tetrachloroethane	8.339	83	315655	99.10 ug/L	98
102) trans-1,4-dichloro-2-b...	8.376	53	95178	102.17 ug/L	87
103) 1,2,3-trichloropropane	8.400	110	105253	100.85 ug/L	96
104) n-propylbenzene	8.449	91	1231735	101.49 ug/L	99
105) 2-chlorotoluene	8.546	126	255345	100.85 ug/L	98
106) 4-chlorotoluene	8.662	126	255168	100.72 ug/L	95
107) 1,3,5-trimethylbenzene	8.620	105	860789	100.45 ug/L	100
108) tert-butylbenzene	8.931	134	191289	102.03 ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145278.D
Acq On : 7 Mar 2019 9:58 pm
Operator : juntaep
Sample : ic6212-100
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 08 17:34:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

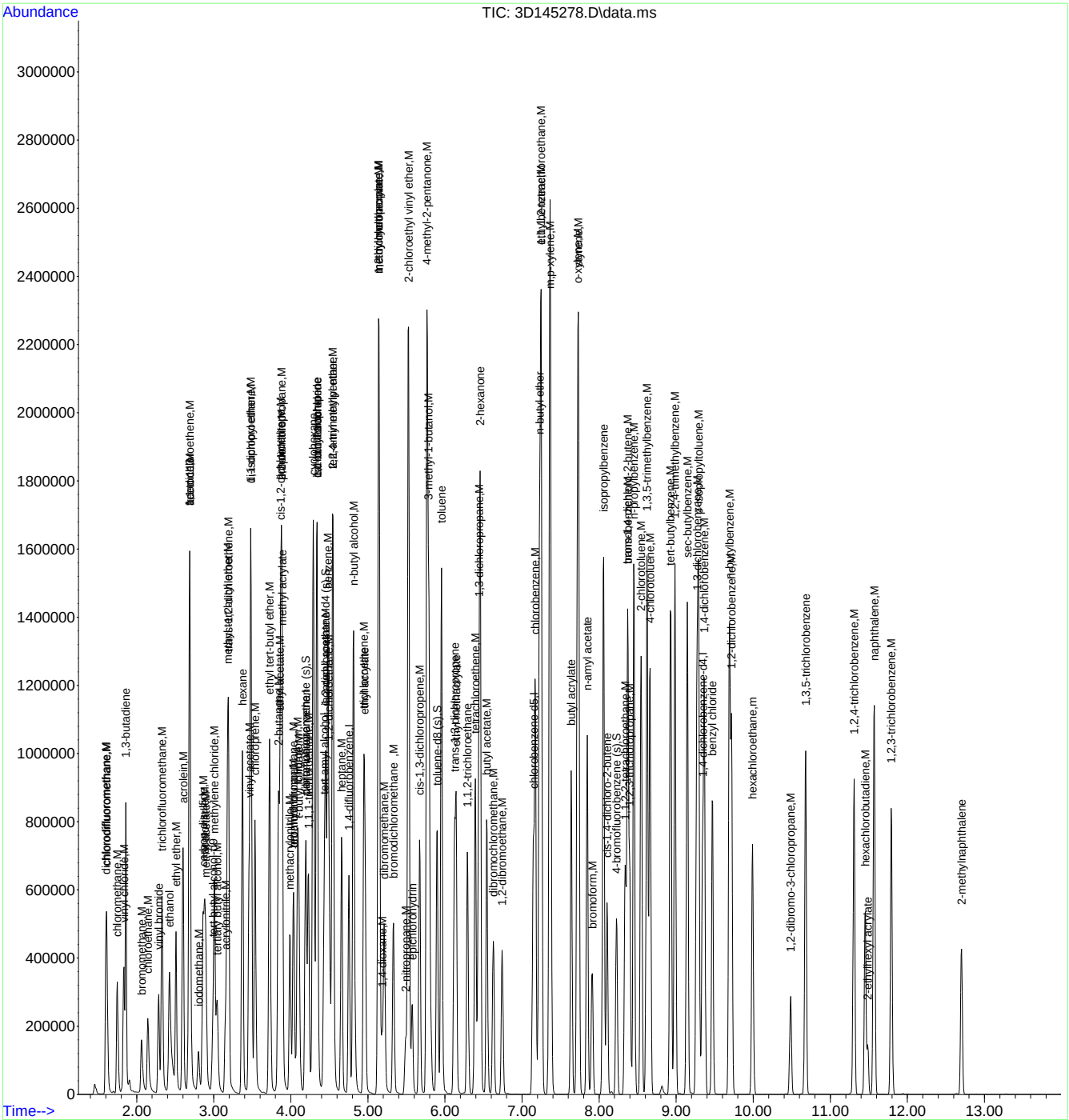
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	854891	100.64 ug/L	99
110) sec-butylbenzene	9.144	105	1034738	101.77 ug/L	99
111) 1,3-dichlorobenzene	9.266	146	489709	100.24 ug/L	99
112) p-isopropyltoluene	9.290	119	881304	100.73 ug/L	99
113) 1,4-dichlorobenzene	9.363	146	500944	100.91 ug/L	99
114) benzyl chloride	9.467	91	634216	101.09 ug/L	99
115) 1,2-dichlorobenzene	9.717	146	463071	100.11 ug/L	100
116) n-butylbenzene	9.693	92	408612	102.59 ug/L	100
117) 1,2-dibromo-3-chloropr...	10.485	75	69027	101.71 ug/L	93
118) 1,3,5-trichlorobenzene	10.680	180	340242	101.13 ug/L	98
119) 2-ethylhexyl acrylate	11.485	70	36088	21.49 ug/L	96
120) 1,2,4-trichlorobenzene	11.308	180	312449	104.34 ug/L	99
121) hexachlorobutadiene	11.454	225	119676	101.81 ug/L	99
122) naphthalene	11.570	128	963410	102.96 ug/L	100
123) 1,2,3-trichlorobenzene	11.790	180	288081	102.58 ug/L	99
124) hexachloroethane	9.991	201	138959	105.94 ug/L	97
125) 2-methylnaphthalene	12.704	142	222384	54.00 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145278.D
Acq On : 7 Mar 2019 9:58 pm
Operator : juntaep
Sample : ic6212-100
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 08 17:34:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145279.D
Acq On : 7 Mar 2019 10:24 pm
Operator : juntaep
Sample : ic6212-200
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 08 17:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.993	65	205530	500.00	ug/L	0.00
5) pentafluorobenzene	4.188	168	306498	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.755	114	430091	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	365870	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	166968	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.194	113	108652	49.32	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.64%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	115204	48.78	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 97.56%			
75) toluene-d8 (s)	5.901	98	462716	50.01	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.02%			
99) 4-bromofluorobenzene (s)	8.223	95	159140	50.43	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.86%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.048	59	516956	1011.05	ug/L	98
3) ethanol	2.432	45	844743	18102.66	ug/L	97
4) 1,4-dioxane	5.187	88	236165	5005.35	ug/L	97
6) chlorodifluoromethane	1.609	51	562728	201.18	ug/L	97
7) dichlorodifluoromethane	1.597	85	630482	192.93	ug/L	99
8) chloromethane	1.749	50	581251	202.83	ug/L	98
9) vinyl chloride	1.828	62	609270	199.14	ug/L	100
10) 1,3-butadiene	1.859	54	467179	198.04	ug/L	99
11) bromomethane	2.054	94	180833	163.73	ug/L	99
12) chloroethane	2.139	64	333358	185.47	ug/L	98
13) trichlorofluoromethane	2.322	101	729668	192.57	ug/L	98
14) vinyl bromide	2.279	106	356556	201.94	ug/L	98
15) ethyl ether	2.511	74	276242	200.08	ug/L	95
16) acrolein	2.603	56	109344	199.15	ug/L	100
17) freon 113	2.682	151	399225	200.92	ug/L	99
18) 1,1-dichloroethene	2.682	96	431552	204.03	ug/L	100
19) acetone	2.694	58	243578	808.09	ug/L	91
20) acetonitrile	2.883	41	889008	1989.27	ug/L	99
21) iodomethane	2.798	142	342819	286.45	ug/L	99
22) carbon disulfide	2.852	76	1116796	208.96	ug/L	100
23) methylene chloride	3.005	84	431833	202.68	ug/L	99
24) methyl acetate	2.895	43	483350	202.79	ug/L	99
25) methyl tert butyl ether	3.176	73	1367984	202.41	ug/L	99
26) trans-1,2-dichloroethene	3.188	96	454773	203.05	ug/L	98
27) di-isopropyl ether	3.480	45	1521073	198.52	ug/L	98
28) 2-butanone	3.840	72	339927	798.63	ug/L #	81
29) 1,1-dichloroethane	3.480	63	768742	196.12	ug/L	98
30) chloroprene	3.535	53	746433	199.26	ug/L	98
31) acrylonitrile	3.151	53	239414	201.75	ug/L	97
32) hexane	3.371	56	375842	199.19	ug/L	98
33) vinyl acetate	3.456	86	140099	210.63	ug/L	98
34) ethyl tert-butyl ether	3.724	59	1472822	201.52	ug/L	99
35) ethyl acetate	3.846	45	100912	204.59	ug/L #	5
36) 2,2-dichloropropane	3.877	77	646641	198.50	ug/L	100
37) cis-1,2-dichloroethene	3.864	96	491946	203.84	ug/L	99
38) methyl acrylate	3.895	85	100344	202.14	ug/L #	84
39) propionitrile	3.883	54	1012575	2001.37	ug/L	97
40) bromochloromethane	4.029	128	209294	190.41	ug/L	93
41) tetrahydrofuran	4.041	72	89647	188.11	ug/L	99
42) chloroform	4.084	85	482410	202.02	ug/L	99
43) t-butyl formate	4.102	59	458341	208.03	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145279.D
Acq On : 7 Mar 2019 10:24 pm
Operator : juntaep
Sample : ic6212-200
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 08 17:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
45) methacrylonitrile	3.986	67	253940	201.67 ug/L	97
46) 1,1,1-trichloroethane	4.224	97	701740	204.12 ug/L	98
47) cyclohexane	4.285	84	719111	198.98 ug/L #	83
48) 1,1-dichloropropene	4.334	75	645191	204.61 ug/L	100
49) iso-butyl alcohol	4.346	43	412799	2137.05 ug/L	97
50) carbon tetrachloride	4.340	117	602896	208.21 ug/L	99
51) tert amyl alcohol	4.438	55	164674	969.57 ug/L #	79
54) n-butyl alcohol	4.822	56	1421509	10059.49 ug/L	98
55) 2,2,4-trimethylpentane	4.547	57	1198389	202.67 ug/L	97
56) benzene	4.480	78	1819767	201.46 ug/L	100
57) tert-amyl methyl ether	4.541	87	363061	203.89 ug/L	98
58) heptane	4.657	71	313792	201.68 ug/L	99
59) isopropyl acetate	4.450	87	155660	203.29 ug/L	93
60) 1,2-dichloroethane	4.498	62	583484	198.01 ug/L	100
61) trichloroethene	4.950	130	503141	204.28 ug/L	99
62) ethyl acrylate	4.962	55	783990	203.22 ug/L	99
63) 2-nitropropane	5.486	41	151112	224.20 ug/L	94
64) 2-chloroethyl vinyl ether	5.529	63	1722586	1026.32 ug/L	98
65) methyl methacrylate	5.145	69	580452	200.94 ug/L	96
66) 1,2-dichloropropane	5.139	63	449196	201.93 ug/L	100
67) dibromomethane	5.212	93	267896	202.34 ug/L	98
68) methylcyclohexane	5.139	83	763317	201.40 ug/L	99
69) bromodichloromethane	5.328	83	579087	207.53 ug/L	98
70) epichlorohydrin	5.578	57	376129	967.74 ug/L	96
71) cis-1,3-dichloropropene	5.669	75	741034	206.08 ug/L	98
72) 4-methyl-2-pentanone	5.767	58	1028046	797.93 ug/L	97
73) 3-methyl-1-butanol	5.797	55	844485	4042.86 ug/L	99
76) toluene	5.955	92	1173205	203.81 ug/L	99
77) trans-1,3-dichloropropene	6.120	75	684811	207.64 ug/L	99
78) ethyl methacrylate	6.144	69	728598	202.91 ug/L	99
79) 1,1,2-trichloroethane	6.291	83	338460	201.42 ug/L	98
80) tetrachloroethene	6.394	164	419082	202.55 ug/L	97
81) 1,3-dichloropropane	6.437	76	713948	203.29 ug/L	96
82) 2-hexanone	6.455	58	1068544	791.32 ug/L	99
83) butyl acetate	6.541	56	429233	199.20 ug/L	100
84) dibromochloromethane	6.626	129	451468	214.33 ug/L	100
85) 1,2-dibromoethane	6.742	107	536138	202.30 ug/L	98
86) n-butyl ether	7.224	57	1936254	203.10 ug/L	99
87) chlorobenzene	7.169	112	1249449	202.87 ug/L	98
88) 1,1,1,2-tetrachloroethane	7.242	131	441772	207.16 ug/L	100
89) ethylbenzene	7.248	91	2168162	200.50 ug/L	100
90) m,p-xylene	7.364	106	1689033	401.19 ug/L	99
91) o-xylene	7.717	106	808513	200.46 ug/L	98
92) styrene	7.736	104	1410039	201.57 ug/L	99
93) bromoform	7.912	173	348139	221.53 ug/L	98
94) butyl acrylate	7.638	55	1062193	202.07 ug/L	99
95) n-amyl acetate	7.845	70	436259	199.21 ug/L	97
96) isopropylbenzene	8.059	105	2081544	200.40 ug/L	100
97) cis-1,4-dichloro-2-butene	8.101	88	254914	208.25 ug/L	98
100) bromobenzene	8.370	156	535777	204.97 ug/L	99
101) 1,1,2,2-tetrachloroethane	8.339	83	606630	203.22 ug/L	98
102) trans-1,4-dichloro-2-b...	8.376	53	182235	208.75 ug/L	87
103) 1,2,3-trichloropropane	8.400	110	201472	206.00 ug/L	98
104) n-propylbenzene	8.449	91	2346779	206.33 ug/L	99
105) 2-chlorotoluene	8.546	126	492694	207.64 ug/L	98
106) 4-chlorotoluene	8.662	126	491526	207.03 ug/L	98
107) 1,3,5-trimethylbenzene	8.620	105	1645618	204.92 ug/L	99
108) tert-butylbenzene	8.931	134	366762	208.74 ug/L	90

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145279.D
Acq On : 7 Mar 2019 10:24 pm
Operator : juntaep
Sample : ic6212-200
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 08 17:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

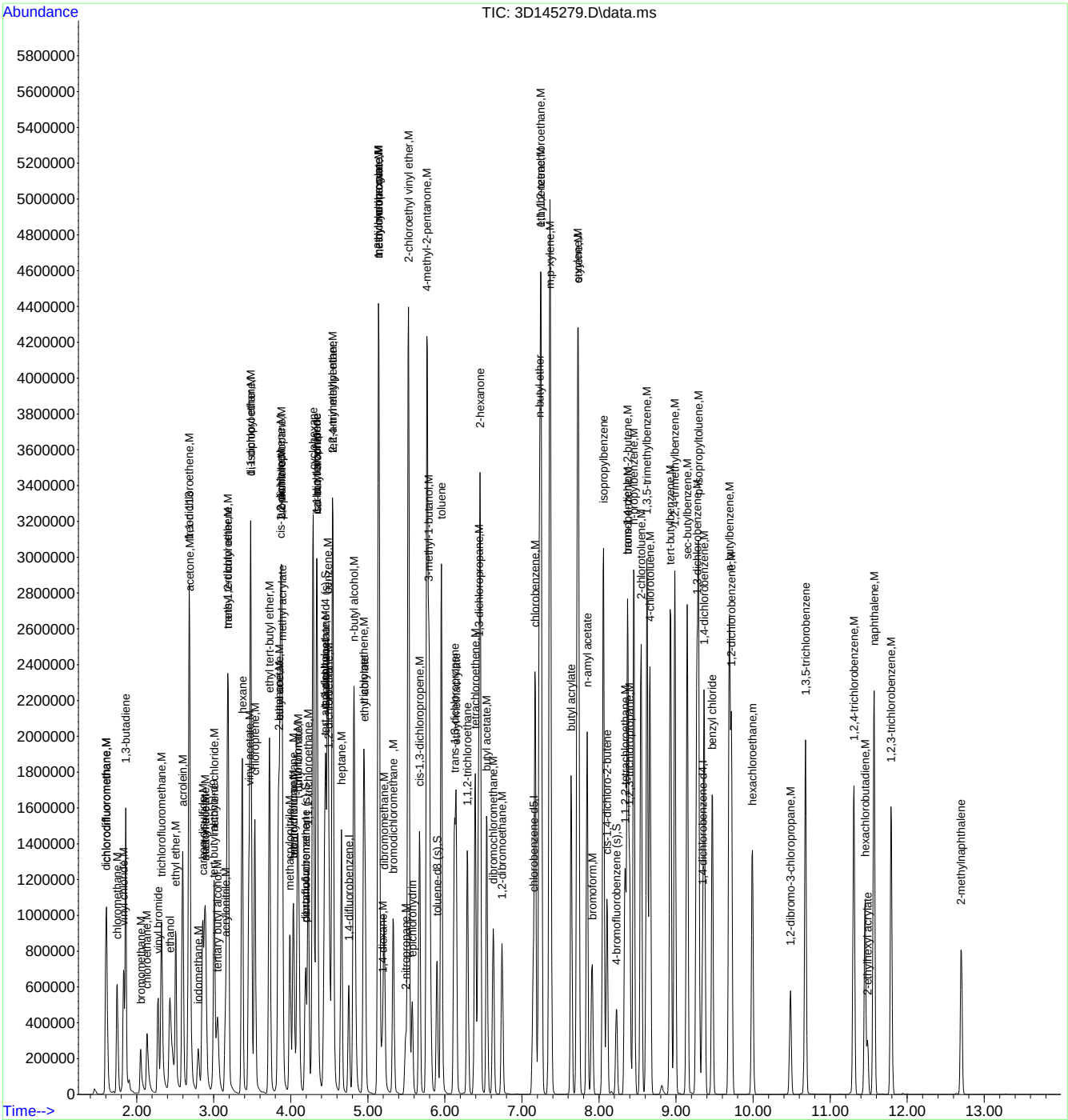
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	1640913	206.12 ug/L	99
110) sec-butylbenzene	9.144	105	1946371	204.27 ug/L	99
111) 1,3-dichlorobenzene	9.266	146	943791	206.14 ug/L	99
112) p-isopropyltoluene	9.290	119	1681171	205.05 ug/L	100
113) 1,4-dichlorobenzene	9.363	146	954511	205.17 ug/L	98
114) benzyl chloride	9.473	91	1244452	211.66 ug/L	97
115) 1,2-dichlorobenzene	9.717	146	896843	206.88 ug/L	99
116) n-butylbenzene	9.693	92	777153	208.21 ug/L	99
117) 1,2-dibromo-3-chloropr...	10.485	75	138939	218.45 ug/L	93
118) 1,3,5-trichlorobenzene	10.680	180	659880	209.28 ug/L	98
119) 2-ethylhexyl acrylate	11.485	70	73018	46.40 ug/L	98
120) 1,2,4-trichlorobenzene	11.308	180	599700	213.70 ug/L	99
121) hexachlorobutadiene	11.454	225	236942	215.09 ug/L	99
122) naphthalene	11.570	128	1862972	212.46 ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	551070	209.38 ug/L	99
124) hexachloroethane	9.991	201	280033	227.80 ug/L	96
125) 2-methylnaphthalene	12.704	142	426981	110.63 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145279.D
Acq On : 7 Mar 2019 10:24 pm
Operator : juntaep
Sample : ic6212-200
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 08 17:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145282.D
Acq On : 7 Mar 2019 11:39 pm
Operator : juntaep
Sample : icv6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 08 18:11:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:10:41 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.986	65	216191	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	318149	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	444546	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	381060	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	179664	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.200	113	115969	51.30	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.60%				
53) 1,2-dichloroethane-d4 (s)	4.450	65	122994	49.27	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 98.54%				
75) toluene-d8 (s)	5.901	98	478622	49.45	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.90%				
99) 4-bromofluorobenzene (s)	8.223	95	169416	49.94	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.88%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	140650	251.33	ug/L		98
3) ethanol	2.419	45	260773	5024.98	ug/L		99
4) 1,4-dioxane	5.181	88	67673	1343.41	ug/L		95
6) chlorodifluoromethane	1.615	51	136591	47.20	ug/L		100
7) dichlorodifluoromethane	1.603	85	165339	51.57	ug/L		99
8) chloromethane	1.749	50	162976	54.65	ug/L		100
9) vinyl chloride	1.834	62	152272	50.39	ug/L		99
10) 1,3-butadiene	1.865	54	127513	51.02	ug/L		100
11) bromomethane	2.072	94	67624	59.82	ug/L		97
12) chloroethane	2.151	64	83635	44.74	ug/L		100
13) trichlorofluoromethane	2.334	101	184620	48.60	ug/L		98
14) vinyl bromide	2.291	106	90684	51.42	ug/L		99
15) ethyl ether	2.511	74	73355	52.14	ug/L		98
16) acrolein	2.608	56	33184	59.72	ug/L		98
17) freon 113	2.688	151	104611	50.26	ug/L		96
18) 1,1-dichloroethene	2.688	96	98563	46.70	ug/L		99
19) acetone	2.694	58	66718	210.31	ug/L		97
20) acetonitrile	2.883	41	238255	492.28	ug/L		99
21) iodomethane	2.804	142	50241	57.49	ug/L		98
22) carbon disulfide	2.858	76	289692	50.35	ug/L		99
23) methylene chloride	3.011	84	110987	46.86	ug/L		98
24) methyl acetate	2.901	43	127632	48.53	ug/L		99
25) methyl tert butyl ether	3.175	73	735944	104.25	ug/L		99
26) trans-1,2-dichloroethene	3.194	96	111161	46.85	ug/L		97
27) di-isopropyl ether	3.480	45	385518	48.52	ug/L		100
28) 2-butanone	3.840	72	92406	215.08	ug/L	#	85
29) 1,1-dichloroethane	3.486	63	197295	49.46	ug/L		99
30) chloroprene	3.535	53	194928	51.23	ug/L		100
31) acrylonitrile	3.151	53	69369	56.91	ug/L		99
32) hexane	3.377	56	80967	40.50	ug/L		98
33) vinyl acetate	3.456	86	33860	49.86	ug/L	#	93
34) ethyl tert-butyl ether	3.724	59	376536	49.87	ug/L		99
35) ethyl acetate	3.852	45	26816	50.22	ug/L	#	88
36) 2,2-dichloropropane	3.877	77	160371	46.63	ug/L		97
37) cis-1,2-dichloroethene	3.870	96	129478	50.72	ug/L		97
38) methyl acrylate	3.895	85	26772	53.42	ug/L	#	88
39) propionitrile	3.883	54	280204	530.26	ug/L		94
40) bromochloromethane	4.035	128	58406	51.43	ug/L		95
41) tetrahydrofuran	4.041	72	25024	52.39	ug/L		97
42) chloroform	4.090	85	124766	47.93	ug/L		99
43) t-butyl formate	4.108	59	104911	48.41	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145282.D
Acq On : 7 Mar 2019 11:39 pm
Operator : juntaep
Sample : icv6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 08 18:11:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:10:41 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
45) methacrylonitrile	3.992	67	67251	53.02 ug/L	99
46) 1,1,1-trichloroethane	4.230	97	172460	48.18 ug/L	99
47) cyclohexane	4.291	84	172644	45.45 ug/L	96
48) 1,1-dichloropropene	4.334	75	162774	49.29 ug/L	99
49) iso-butyl alcohol	4.334	43	111898	530.81 ug/L	99
50) carbon tetrachloride	4.346	117	147831	50.55 ug/L	99
51) tert amyl alcohol	4.425	55	48387	268.18 ug/L	93
54) n-butyl alcohol	4.809	56	387889	2707.53 ug/L	99
55) 2,2,4-trimethylpentane	4.547	57	289088	45.86 ug/L	99
56) benzene	4.480	78	471942	49.30 ug/L	99
57) tert-amyl methyl ether	4.541	87	90924	48.85 ug/L	99
58) heptane	4.657	71	83966	51.57 ug/L	97
59) isopropyl acetate	4.450	87	39452	49.95 ug/L	95
60) 1,2-dichloroethane	4.504	62	155966	48.46 ug/L	99
61) trichloroethene	4.949	130	128807	49.98 ug/L	99
62) ethyl acrylate	4.962	55	213809	54.40 ug/L	100
63) 2-nitropropane	5.486	41	38585	54.60 ug/L	94
64) 2-chloroethyl vinyl ether	5.529	63	471302	293.11 ug/L	98
65) methyl methacrylate	5.145	69	157271	50.31 ug/L	99
66) 1,2-dichloropropane	5.145	63	117341	50.65 ug/L	97
67) dibromomethane	5.212	93	72173	53.08 ug/L	98
68) methylcyclohexane	5.138	83	185641	45.81 ug/L	99
69) bromodichloromethane	5.334	83	147036	51.89 ug/L	99
70) epichlorohydrin	5.577	57	101588	265.15 ug/L	95
71) cis-1,3-dichloropropene	5.669	75	192518	51.74 ug/L	100
72) 4-methyl-2-pentanone	5.766	58	285335	215.84 ug/L	99
73) 3-methyl-1-butanol	5.791	55	236444	1162.83 ug/L	99
76) toluene	5.955	92	308442	49.92 ug/L	98
77) trans-1,3-dichloropropene	6.120	75	170593	49.37 ug/L	98
78) ethyl methacrylate	6.144	69	186607	51.56 ug/L	99
79) 1,1,2-trichloroethane	6.291	83	91061	52.06 ug/L	96
80) tetrachloroethene	6.394	164	108219	49.98 ug/L	98
81) 1,3-dichloropropane	6.437	76	193091	52.84 ug/L	99
82) 2-hexanone	6.455	58	294905	215.03 ug/L	99
83) butyl acetate	6.541	56	116397	53.73 ug/L	98
84) dibromochloromethane	6.626	129	118774	57.32 ug/L	96
85) 1,2-dibromoethane	6.742	107	143701	51.76 ug/L	99
86) n-butyl ether	7.223	57	515762	52.19 ug/L	99
87) chlorobenzene	7.175	112	324287	49.29 ug/L	99
88) 1,1,1,2-tetrachloroethane	7.242	131	117067	54.34 ug/L	100
89) ethylbenzene	7.248	91	571293	50.50 ug/L	99
90) m,p-xylene	7.364	106	445900	100.36 ug/L	99
91) o-xylene	7.717	106	213898	49.96 ug/L	100
92) styrene	7.736	104	377290	52.53 ug/L	99
93) bromoform	7.912	173	90669	59.01 ug/L	97
94) butyl acrylate	7.638	55	286831	56.31 ug/L	97
95) n-amyl acetate	7.845	70	110947	50.31 ug/L	98
96) isopropylbenzene	8.059	105	552777	51.16 ug/L	99
97) cis-1,4-dichloro-2-butene	8.101	88	63557	54.83 ug/L	96
100) bromobenzene	8.370	156	144349	50.65 ug/L	98
101) 1,1,2,2-tetrachloroethane	8.339	83	165585	53.13 ug/L	98
102) trans-1,4-dichloro-2-b...	8.376	53	55262	59.44 ug/L	94
103) 1,2,3-trichloropropane	8.394	110	54772	50.75 ug/L	99
104) n-propylbenzene	8.449	91	621455	50.63 ug/L	99
105) 2-chlorotoluene	8.546	126	129359	50.62 ug/L	98
106) 4-chlorotoluene	8.662	126	135529	52.97 ug/L	94
107) 1,3,5-trimethylbenzene	8.619	105	435278	50.27 ug/L	98
108) tert-butylbenzene	8.930	134	106491	55.18 ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145282.D
Acq On : 7 Mar 2019 11:39 pm
Operator : juntaep
Sample : icv6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 08 18:11:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:10:41 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

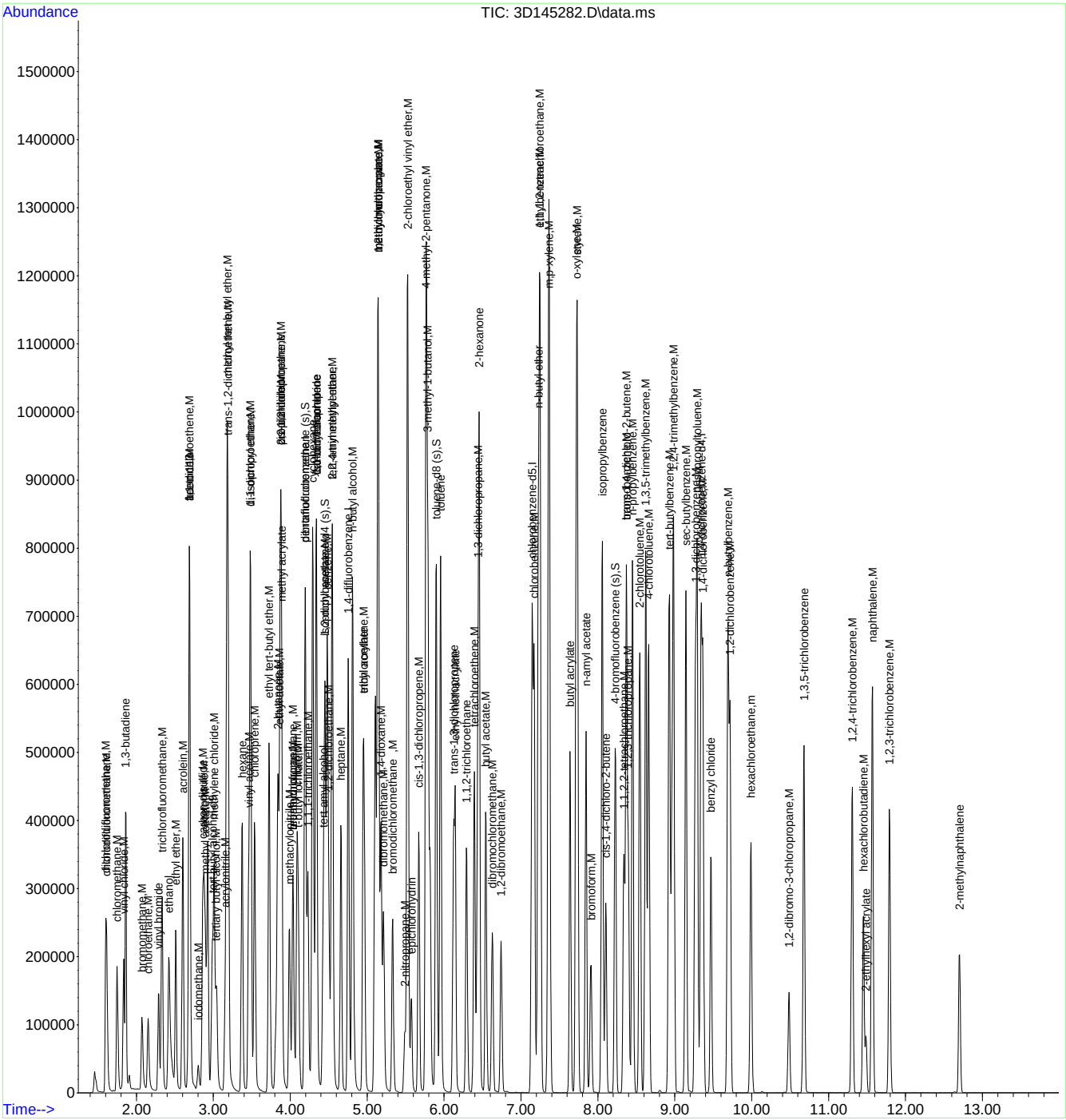
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	449053	52.58	ug/L	100
110) sec-butylbenzene	9.144	105	519736	51.39	ug/L	99
111) 1,3-dichlorobenzene	9.266	146	255104	50.65	ug/L	100
112) p-isopropyltoluene	9.290	119	448551	50.90	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	256596	50.20	ug/L	99
114) benzyl chloride	9.473	91	251546	42.20	ug/L	98
115) 1,2-dichlorobenzene	9.717	146	241787	50.25	ug/L	98
116) n-butylbenzene	9.692	92	203836	52.34	ug/L	99
117) 1,2-dibromo-3-chloropr...	10.485	75	34230	53.40	ug/L	92
118) 1,3,5-trichlorobenzene	10.680	180	173238	50.95	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	20495	12.47	ug/L	99
120) 1,2,4-trichlorobenzene	11.308	180	156214	53.06	ug/L	97
121) hexachlorobutadiene	11.454	225	59130	51.01	ug/L	99
122) naphthalene	11.570	128	494139	52.88	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	144773	53.68	ug/L	99
124) hexachloroethane	9.991	201	68922	55.59	ug/L	97
125) 2-methylnaphthalene	12.704	142	106568	27.76	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145282.D
Acq On : 7 Mar 2019 11:39 pm
Operator : juntaep
Sample : icv6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 08 18:11:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:10:41 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146705.d
Acq On : 17 Apr 2019 6:36 pm
Operator : JessicaP
Sample : CC6212-50 Inst : MS3D
Misc : MS34069,V3D6273,5,,,,1
ALS Vial : 51 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 17 18:56:19 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	2.986	65	221538	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	331064	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	466142	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	400077	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	189243	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.194	113	121969	51.85	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.70%				
53) 1,2-dichloroethane-d4 (s)	4.443	65	126920	48.49	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 96.98%				
75) toluene-d8 (s)	5.894	98	515799	50.76	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.52%				
99) 4-bromofluorobenzene (s)	8.223	95	177266	49.61	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.22%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	137236	239.31	ug/L		98
3) ethanol	2.419	45	291074	5473.49	ug/L		100
4) 1,4-dioxane	5.181	88	65051	1260.19	ug/L		99
6) chlorodifluoromethane	1.615	51	127341	42.29	ug/L		98
7) dichlorodifluoromethane	1.603	85	136855	41.02	ug/L		99
8) chloromethane	1.749	50	138569	44.66	ug/L		99
9) vinyl chloride	1.834	62	154462	49.12	ug/L		99
10) 1,3-butadiene	1.865	54	116142	44.66	ug/L		97
11) bromomethane	2.072	94	45292	38.50	ug/L		99
12) chloroethane	2.151	64	94673	48.67	ug/L		99
13) trichlorofluoromethane	2.334	101	182266	46.11	ug/L		100
14) vinyl bromide	2.291	106	81129	44.21	ug/L		97
15) ethyl ether	2.511	74	81070	55.37	ug/L		93
16) acrolein	2.608	56	30154	52.15	ug/L		97
17) freon 113	2.688	151	88193	40.72	ug/L		97
18) 1,1-dichloroethene	2.688	96	112388	51.17	ug/L		99
19) acetone	2.694	58	73178	221.68	ug/L		89
20) acetonitrile	2.883	41	273390	542.84	ug/L		97
21) iodomethane	2.804	142	38415	42.24	ug/L		96
22) carbon disulfide	2.858	76	289831	48.40	ug/L		98
23) methylene chloride	3.011	84	123754	50.21	ug/L		98
24) methyl acetate	2.901	43	141672	51.76	ug/L		97
25) methyl tert butyl ether	3.175	73	390532	53.16	ug/L		98
26) trans-1,2-dichloroethene	3.194	96	124208	50.31	ug/L		97
27) di-isopropyl ether	3.480	45	458039	55.40	ug/L		97
28) 2-butanone	3.834	72	99800	223.22	ug/L		99
29) 1,1-dichloroethane	3.486	63	220725	53.18	ug/L		99
30) chloroprene	3.535	53	200654	50.68	ug/L		99
31) acrylonitrile	3.151	53	72022	56.78	ug/L		99
32) hexane	3.377	56	88880	42.73	ug/L		99
33) vinyl acetate	3.456	86	37172	52.61	ug/L	#	84
34) ethyl tert-butyl ether	3.724	59	417252	53.10	ug/L		99
35) ethyl acetate	3.846	45	29647	53.35	ug/L	#	27
36) 2,2-dichloropropane	3.877	77	178535	49.89	ug/L		100
37) cis-1,2-dichloroethene	3.864	96	137849	51.89	ug/L		97
38) methyl acrylate	3.889	85	28020	53.73	ug/L	#	69
39) propionitrile	3.877	54	306912	558.15	ug/L		81
40) bromochloromethane	4.029	128	63902	54.07	ug/L		87
41) tetrahydrofuran	4.041	72	26446	53.21	ug/L		87

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146705.d
Acq On : 17 Apr 2019 6:36 pm
Operator : JessicaP
Sample : CC6212-50 Inst : MS3D
Misc : MS34069,V3D6273,5,,,,1
ALS Vial : 51 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 17 18:56:19 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) chloroform	4.084	85	133483	49.28	ug/L		99
43) t-butyl formate	4.102	59	107186	47.53	ug/L		91
45) methacrylonitrile	3.986	67	74109	56.15	ug/L		97
46) 1,1,1-trichloroethane	4.230	97	179845	48.28	ug/L		98
47) cyclohexane	4.291	84	185809	47.01	ug/L	#	89
48) 1,1-dichloropropene	4.334	75	174331	50.73	ug/L		99
49) iso-butyl alcohol	4.334	43	113701	518.32	ug/L		96
50) carbon tetrachloride	4.340	117	150802	49.56	ug/L		98
51) tert amyl alcohol	4.425	55	49312	262.65	ug/L		96
54) n-butyl alcohol	4.809	56	404270	2691.13	ug/L		99
55) 2,2,4-trimethylpentane	4.547	57	312464	47.27	ug/L		99
56) benzene	4.480	78	520916	51.89	ug/L		100
57) tert-amyl methyl ether	4.541	87	96810	49.61	ug/L	#	87
58) heptane	4.657	71	79967	46.84	ug/L		98
59) isopropyl acetate	4.450	87	42048	50.77	ug/L	#	86
60) 1,2-dichloroethane	4.498	62	158600	47.00	ug/L		94
61) trichloroethene	4.949	130	132955	49.20	ug/L		99
62) ethyl acrylate	4.962	55	227233	55.13	ug/L		97
63) 2-nitropropane	5.486	41	37855	51.09	ug/L		90
64) 2-chloroethyl vinyl ether	5.523	63	475099	281.78	ug/L		98
65) methyl methacrylate	5.145	69	161388	49.24	ug/L		96
66) 1,2-dichloropropane	5.138	63	132986	54.74	ug/L		99
67) dibromomethane	5.212	93	74510	52.26	ug/L		98
68) methylcyclohexane	5.138	83	193765	45.60	ug/L		97
69) bromodichloromethane	5.327	83	157805	53.11	ug/L		100
70) epichlorohydrin	5.571	57	111777	278.23	ug/L		97
71) cis-1,3-dichloropropene	5.669	75	207504	53.18	ug/L		97
72) 4-methyl-2-pentanone	5.766	58	309328	223.14	ug/L		96
73) 3-methyl-1-butanol	5.785	55	228055	1069.61	ug/L		95
76) toluene	5.955	92	329180	50.75	ug/L		98
77) trans-1,3-dichloropropene	6.120	75	185308	51.08	ug/L		99
78) ethyl methacrylate	6.144	69	205956	54.20	ug/L		99
79) 1,1,2-trichloroethane	6.291	83	97542	53.12	ug/L		96
80) tetrachloroethene	6.394	164	114431	50.34	ug/L		97
81) 1,3-dichloropropane	6.437	76	202567	52.80	ug/L		97
82) 2-hexanone	6.455	58	319500	221.89	ug/L		96
83) butyl acetate	6.541	56	125990	55.40	ug/L		99
84) dibromochloromethane	6.626	129	122350	56.24	ug/L		100
85) 1,2-dibromoethane	6.742	107	158853	54.50	ug/L		100
86) n-butyl ether	7.223	57	563775	54.34	ug/L		99
87) chlorobenzene	7.169	112	339244	49.11	ug/L		98
88) 1,1,1,2-tetrachloroethane	7.242	131	116336	51.43	ug/L		99
89) ethylbenzene	7.248	91	602746	50.74	ug/L		100
90) m,p-xylene	7.364	106	464945	99.67	ug/L		97
91) o-xylene	7.717	106	222850	49.58	ug/L		97
92) styrene	7.736	104	385654	51.15	ug/L		98
93) bromoform	7.906	173	92236	57.18	ug/L		99
94) butyl acrylate	7.638	55	310409	58.04	ug/L		98
95) n-amyl acetate	7.845	70	126512	54.64	ug/L		96
96) isopropylbenzene	8.053	105	570942	50.33	ug/L		99
97) cis-1,4-dichloro-2-butene	8.101	88	53698	44.13	ug/L		96
100) bromobenzene	8.370	156	147858	49.25	ug/L		98
101) 1,1,2,2-tetrachloroethane	8.333	83	173230	52.77	ug/L		99
102) trans-1,4-dichloro-2-b...	8.370	53	43610	44.53	ug/L		91
103) 1,2,3-trichloropropane	8.394	110	55830	49.12	ug/L		99
104) n-propylbenzene	8.449	91	647360	50.07	ug/L		99
105) 2-chlorotoluene	8.546	126	133023	49.41	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146705.d
Acq On : 17 Apr 2019 6:36 pm
Operator : JessicaP
Sample : CC6212-50 Inst : MS3D
Misc : MS34069,V3D6273,5,,,,1
ALS Vial : 51 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 17 18:56:19 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

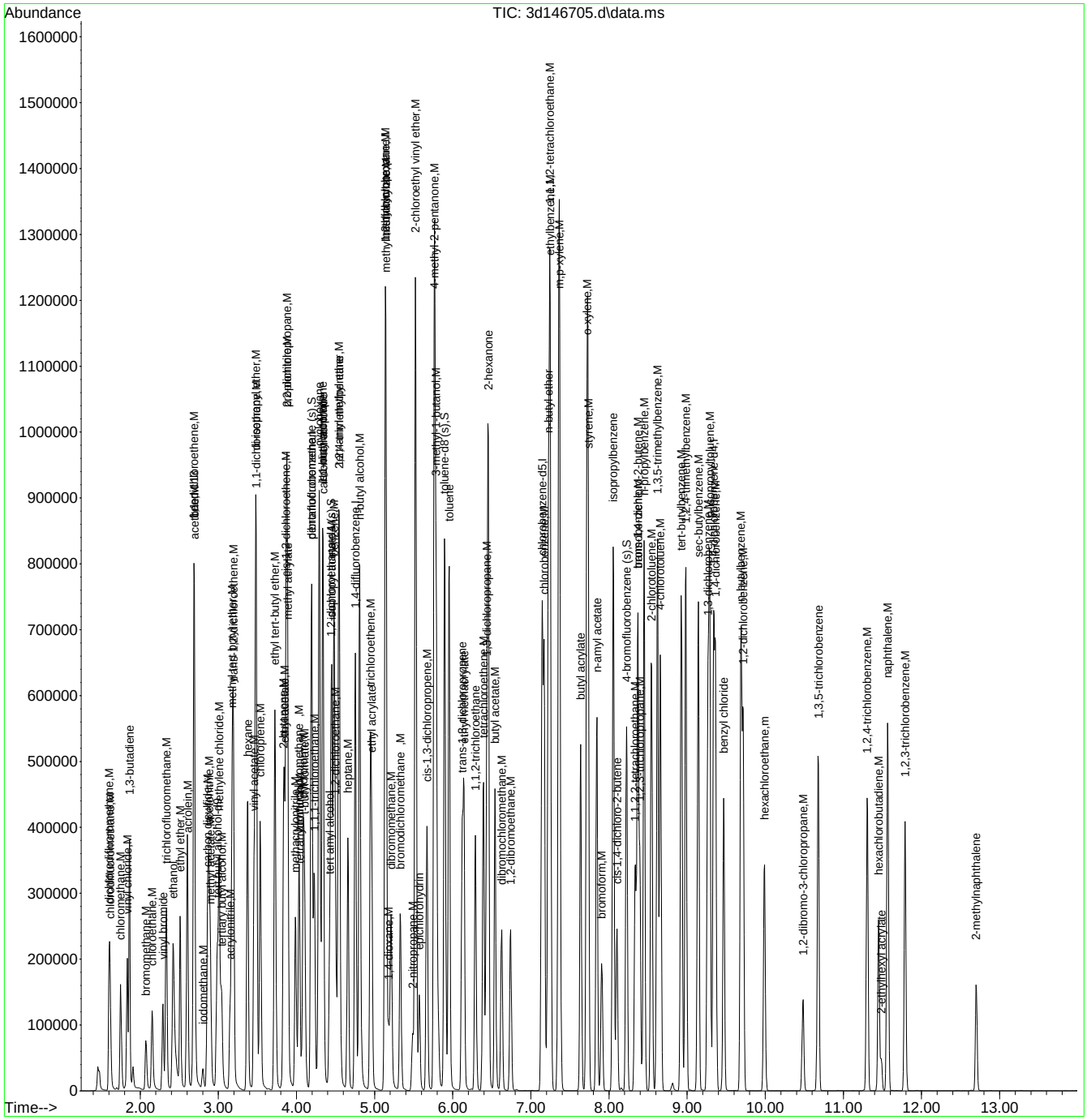
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.656	126	131195	48.68	ug/L	95
107) 1,3,5-trimethylbenzene	8.619	105	448275	49.15	ug/L	98
108) tert-butylbenzene	8.924	134	97810	48.12	ug/L	98
109) 1,2,4-trimethylbenzene	8.985	105	449748	49.99	ug/L	99
110) sec-butylbenzene	9.144	105	531562	49.90	ug/L	99
111) 1,3-dichlorobenzene	9.266	146	259892	48.99	ug/L	99
112) p-isopropyltoluene	9.290	119	455643	49.08	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	264840	49.19	ug/L	99
114) benzyl chloride	9.467	91	319275	50.85	ug/L	99
115) 1,2-dichlorobenzene	9.717	146	245554	48.45	ug/L	99
116) n-butylbenzene	9.686	92	211591	51.58	ug/L	97
117) 1,2-dibromo-3-chloropr...	10.485	75	33739	49.97	ug/L	91
118) 1,3,5-trichlorobenzene	10.680	180	175730	49.07	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	12965	7.49	ug/L	96
120) 1,2,4-trichlorobenzene	11.302	180	154332	49.77	ug/L	98
121) hexachlorobutadiene	11.448	225	57616	47.19	ug/L	96
122) naphthalene	11.564	128	460831	46.82	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	139955	49.27	ug/L	98
124) hexachloroethane	9.991	201	70374	53.89	ug/L	97
125) 2-methylnaphthalene	12.698	142	80617	19.93	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6273\
Data File : 3d146705.d
Acq On : 17 Apr 2019 6:36 pm
Operator : JessicaP
Sample : CC6212-50 Inst : MS3D
Misc : MS34069,V3D6273,5,,,,1
ALS Vial : 51 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 17 18:56:19 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146735.d
Acq On : 18 Apr 2019 7:26 am
Operator : JessicaP
Sample : CC6212-20 Inst : MS3D
Misc : MS34039,V3D6274,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 07:51:54 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	2.980	65	210536	500.00	ug/L		0.00
5) pentafluorobenzene	4.193	168	324847	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	451914	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	383958	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	180792	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.193	113	115811	50.17	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.34%				
53) 1,2-dichloroethane-d4 (s)	4.443	65	125675	49.53	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 99.06%				
75) toluene-d8 (s)	5.894	98	500905	51.36	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.72%				
99) 4-bromofluorobenzene (s)	8.223	95	168610	49.39	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.78%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.035	59	52874	97.02	ug/L		99
3) ethanol	2.419	45	114834	2272.24	ug/L		98
4) 1,4-dioxane	5.181	88	25532	520.46	ug/L		95
6) chlorodifluoromethane	1.615	51	57872	19.59	ug/L		98
7) dichlorodifluoromethane	1.603	85	70736	21.61	ug/L		99
8) chloromethane	1.749	50	61949	20.35	ug/L		97
9) vinyl chloride	1.834	62	68235	22.11	ug/L		100
10) 1,3-butadiene	1.865	54	54209	21.24	ug/L		98
11) bromomethane	2.078	94	16082	13.93	ug/L		100
12) chloroethane	2.157	64	40299	21.12	ug/L		96
13) trichlorofluoromethane	2.334	101	75613	19.49	ug/L		99
14) vinyl bromide	2.291	106	32491	18.04	ug/L		98
15) ethyl ether	2.511	74	33059	23.01	ug/L		99
16) acrolein	2.608	56	13039	22.98	ug/L		98
17) freon 113	2.688	151	35709	16.80	ug/L		95
18) 1,1-dichloroethene	2.694	96	45792	21.25	ug/L		98
19) acetone	2.694	58	29138	89.96	ug/L	#	86
20) acetonitrile	2.877	41	111548	225.73	ug/L		99
21) iodomethane	2.804	142	8501	9.53	ug/L		95
22) carbon disulfide	2.858	76	120623	20.53	ug/L		99
23) methylene chloride	3.011	84	48766	20.16	ug/L		94
24) methyl acetate	2.895	43	57764	21.51	ug/L		93
25) methyl tert butyl ether	3.175	73	152685	21.18	ug/L		100
26) trans-1,2-dichloroethene	3.194	96	50603	20.89	ug/L		95
27) di-isopropyl ether	3.480	45	181538	22.38	ug/L		97
28) 2-butanone	3.834	72	39035	88.98	ug/L		92
29) 1,1-dichloroethane	3.486	63	89751	22.04	ug/L		99
30) chloroprene	3.535	53	81223	20.91	ug/L		96
31) acrylonitrile	3.151	53	28427	22.84	ug/L		95
32) hexane	3.370	56	37603	18.42	ug/L		98
33) vinyl acetate	3.456	86	14010	20.21	ug/L	#	82
34) ethyl tert-butyl ether	3.724	59	164778	21.37	ug/L		99
35) ethyl acetate	3.846	45	11670	21.40	ug/L	#	37
36) 2,2-dichloropropane	3.876	77	68460	19.50	ug/L		95
37) cis-1,2-dichloroethene	3.864	96	54330	20.84	ug/L		97
38) methyl acrylate	3.889	85	10496	20.51	ug/L	#	60
39) propionitrile	3.876	54	122503	227.05	ug/L		82
40) bromochloromethane	4.029	128	24414	21.05	ug/L	#	85
41) tetrahydrofuran	4.041	72	10634	21.81	ug/L		89

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146735.d
Acq On : 18 Apr 2019 7:26 am
Operator : JessicaP
Sample : CC6212-20 Inst : MS3D
Misc : MS34039,V3D6274,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 07:51:54 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) chloroform	4.084	85	52354	19.70	ug/L	100
43) t-butyl formate	4.102	59	35895	16.22	ug/L #	81
45) methacrylonitrile	3.986	67	28987	22.38	ug/L	97
46) 1,1,1-trichloroethane	4.230	97	69687	19.07	ug/L	99
47) cyclohexane	4.291	84	77710	20.04	ug/L	89
48) 1,1-dichloropropene	4.334	75	68551	20.33	ug/L	97
49) iso-butyl alcohol	4.334	43	45635	212.01	ug/L	97
50) carbon tetrachloride	4.340	117	58278	19.52	ug/L	99
51) tert amyl alcohol	4.425	55	20158	109.42	ug/L	95
54) n-butyl alcohol	4.809	56	153699	1055.35	ug/L	97
55) 2,2,4-trimethylpentane	4.547	57	128319	20.02	ug/L	98
56) benzene	4.480	78	206624	21.23	ug/L	99
57) tert-amyl methyl ether	4.541	87	36871	19.49	ug/L #	83
58) heptane	4.657	71	32882	19.87	ug/L	96
59) isopropyl acetate	4.450	87	16318	20.32	ug/L	95
60) 1,2-dichloroethane	4.498	62	62956	19.24	ug/L	96
61) trichloroethene	4.949	130	51732	19.75	ug/L	99
62) ethyl acrylate	4.962	55	88008	22.03	ug/L	97
63) 2-nitropropane	5.486	41	13998	19.49	ug/L	96
64) 2-chloroethyl vinyl ether	5.522	63	180432	110.38	ug/L	98
65) methyl methacrylate	5.144	69	62869	19.79	ug/L	98
66) 1,2-dichloropropane	5.138	63	52194	22.16	ug/L	97
67) dibromomethane	5.212	93	29045	21.01	ug/L	95
68) methylcyclohexane	5.138	83	77672	18.85	ug/L	97
69) bromodichloromethane	5.327	83	59731	20.74	ug/L	95
70) epichlorohydrin	5.571	57	42606	109.39	ug/L	99
71) cis-1,3-dichloropropene	5.669	75	78013	20.62	ug/L	99
72) 4-methyl-2-pentanone	5.766	58	121717	90.57	ug/L	99
73) 3-methyl-1-butanol	5.785	55	85087	411.63	ug/L	94
76) toluene	5.955	92	127806	20.53	ug/L	96
77) trans-1,3-dichloropropene	6.120	75	69196	19.88	ug/L	98
78) ethyl methacrylate	6.144	69	79159	21.71	ug/L	98
79) 1,1,2-trichloroethane	6.291	83	38177	21.66	ug/L	95
80) tetrachloroethene	6.388	164	43099	19.76	ug/L	98
81) 1,3-dichloropropane	6.431	76	79046	21.47	ug/L	98
82) 2-hexanone	6.455	58	125224	90.62	ug/L	99
83) butyl acetate	6.541	56	49841	22.83	ug/L	97
84) dibromochloromethane	6.626	129	45548	21.82	ug/L	97
85) 1,2-dibromoethane	6.742	107	62018	22.17	ug/L	99
86) n-butyl ether	7.223	57	217074	21.80	ug/L	98
87) chlorobenzene	7.168	112	131628	19.85	ug/L	96
88) 1,1,1,2-tetrachloroethane	7.242	131	43371	19.98	ug/L	99
89) ethylbenzene	7.248	91	233039	20.44	ug/L	100
90) m,p-xylene	7.364	106	180226	40.26	ug/L	98
91) o-xylene	7.717	106	87231	20.22	ug/L	98
92) styrene	7.729	104	147871	20.43	ug/L	93
93) bromoform	7.906	173	33702	21.77	ug/L	99
94) butyl acrylate	7.638	55	115548	22.51	ug/L	97
95) n-amyl acetate	7.845	70	47300	21.29	ug/L	97
96) isopropylbenzene	8.052	105	217863	20.01	ug/L	99
97) cis-1,4-dichloro-2-butene	8.101	88	18102	15.50	ug/L	91
100) bromobenzene	8.363	156	56602	19.74	ug/L	98
101) 1,1,2,2-tetrachloroethane	8.333	83	66716	21.27	ug/L	97
102) trans-1,4-dichloro-2-b...	8.369	53	16220	17.34	ug/L	95
103) 1,2,3-trichloropropane	8.394	110	21513	19.81	ug/L	99
104) n-propylbenzene	8.449	91	247974	20.08	ug/L	99
105) 2-chlorotoluene	8.540	126	50490	19.63	ug/L	88

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146735.d
Acq On : 18 Apr 2019 7:26 am
Operator : JessicaP
Sample : CC6212-20 Inst : MS3D
Misc : MS34039,V3D6274,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 07:51:54 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

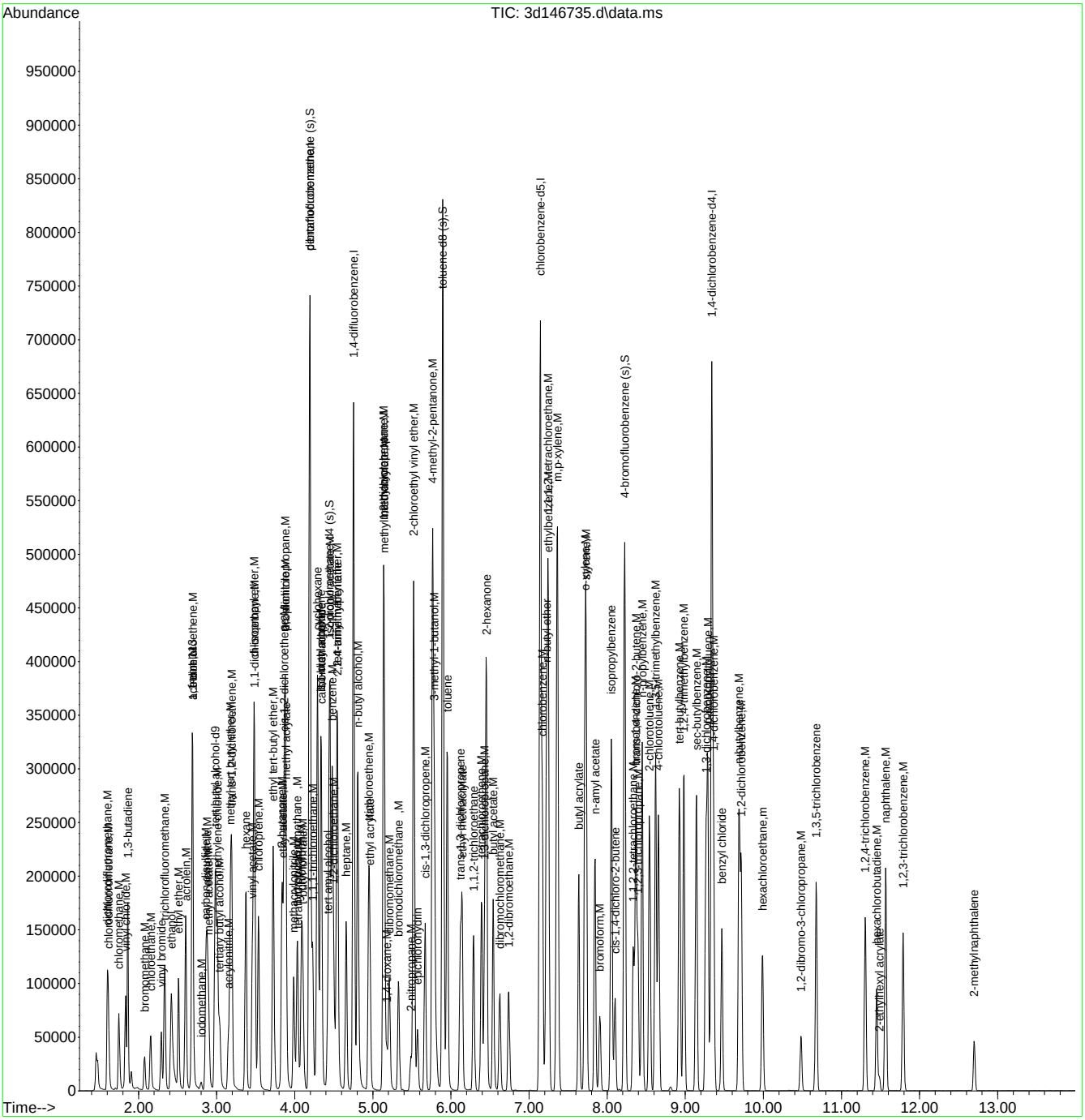
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.656	126	50127	19.47	ug/L	96
107) 1,3,5-trimethylbenzene	8.619	105	172017	19.74	ug/L	99
108) tert-butylbenzene	8.924	134	37289	19.20	ug/L	96
109) 1,2,4-trimethylbenzene	8.979	105	170490	19.84	ug/L	99
110) sec-butylbenzene	9.144	105	203014	19.95	ug/L	98
111) 1,3-dichlorobenzene	9.266	146	98315	19.40	ug/L	100
112) p-isopropyltoluene	9.290	119	171874	19.38	ug/L	98
113) 1,4-dichlorobenzene	9.363	146	99047	19.26	ug/L	97
114) benzyl chloride	9.467	91	108321	18.06	ug/L	100
115) 1,2-dichlorobenzene	9.717	146	94186	19.45	ug/L	97
116) n-butylbenzene	9.686	92	78101	19.93	ug/L	99
117) 1,2-dibromo-3-chloropr...	10.479	75	12700	19.69	ug/L	97
118) 1,3,5-trichlorobenzene	10.674	180	64651	18.90	ug/L	96
119) 2-ethylhexyl acrylate	11.485	70	3718	2.25	ug/L #	84
120) 1,2,4-trichlorobenzene	11.302	180	55839	18.85	ug/L	97
121) hexachlorobutadiene	11.448	225	21215	18.19	ug/L	96
122) naphthalene	11.564	128	166401	17.70	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	49818	18.36	ug/L	96
124) hexachloroethane	9.991	201	24624	19.74	ug/L	98
125) 2-methylnaphthalene	12.698	142	23401	6.06	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\apr 19\v3d6274\
Data File : 3d146735.d
Acq On : 18 Apr 2019 7:26 am
Operator : JessicaP
Sample : CC6212-20 Inst : MS3D
Misc : MS34039,V3D6274,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 18 07:51:54 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



GCMS Volatile Run Log

Standard / Reagents	Lot #				Column	Rxi-624(30mx0.25mmx1.4um)
Standard	ABK: V018-2645-148.34	EC:V019-2645-09.5	Acrolein:V018-2645-128.63	Ext. PA: V018-2645-130.1	Method	V8260C
Standard Concentration	100-10,000ppm	100ppm	100ppm	1000ppm	Init Calib Date	3/7/2019
Standard	Ext. ABK: V019-2648-06.1	Ext. EC: V019-2648-03.6	Ext. Acrolein: V018-2645-142.3	Acetone 3rd: V019-2648-12.2		
Standard Concentration	100-10,000ppm	100ppm	100ppm	400ppm		
Internal Surrogate	V018-2645-126				Analysis Date	3/7/2019
Internal Surrogate Concentration	50/500ppm				Sequence loaded by	Brittany Klimek
					Data processed by	Bridget Kelly
					Batch ID	V3D6212
					Matrix	AQ
Initial Calibration Method	M3D6212				Approved By:	BRIDGETK
pH Paper Lot#					Approved Date:	3/11/2019 3:21:17 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
3d	145269	BFB		NA			5			1	ok	3/7/19; 5:57pm.
3d	145270	IC6212-0.2		NA		V8260 AQ Init. Cal.	5			2	ok	0.2uL ABK, EC, Acrolein/100mL DI H2O.
3d	145271	IC6212-0.5		NA		V8260 AQ Init. Cal.	5			3	ok	0.5uL ABK, EC, Acrolein/100mL DI H2O.
3d	145272	IC6212-1		NA		V8260 AQ Init. Cal.	5			4	ok	1uL ABK, EC, Acrolein/100mL DI H2O.
3d	145273	IC6212-2		NA		V8260 AQ Init. Cal.	5			5	ok	2uL ABK, EC, Acrolein/100mL DI H2O.
3d	145274	IC6212-4		NA		V8260 AQ Init. Cal.	5			6	ok	4uL ABK, EC, Acrolein/100mL DI H2O.
3d	145275	IC6212-8		NA		V8260 AQ Init. Cal.	5			7	ok	8uL ABK, EC, Acrolein/100mL DI H2O.
3d	145276	IC6212-20		NA		V8260 AQ Init. Cal.	5			8	ok	20uL ABK, EC, Acrolein/100mL DI H2O.
3d	145277	ICC6212-50		NA		V8260 AQ Init. Cal.	5			9	ok	50uL ABK, EC, Acrolein/100mL DI H2O.
3d	145278	IC6212-100		NA		V8260 AQ Init. Cal.	5			10	ok	100uL ABK, EC, Acrolein/100mL DI H2O.
3d	145279	IC6212-200		NA		V8260 AQ Init. Cal.	5			11	ok	200uL ABK, EC, Acrolein/100mL DI H2O.

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
3d	145280	IB		NA			5			12	ok	
3d	145281	IB		NA			5			13	ok	
3d	145282	ICV6212-50		NA		V8260 AQ Init. Cal.	5			14	ok	50uL Ext, ABK, EC, Acrolein/100mL DI H2O.
3d	145283	ICV6212-50		NA		V8260 AQ Init. Cal.	5			15	not needed	50uL Ext. PA, Acetone/100mL DI H2O.

GCMS Volatile Run Log

Standard / Reagents	Lot #				Column	Rxi-624(30mx0.25mmx1.4um)
Standard	ABK: V019-2648-40.33	EC: V019-2648-71.12	Acrolein: V019-2648-54.12		Method	V8260C
Standard Concentration	100-10,000ppm	100ppm	100ppm		Init Calib Date	3/8/2019
Internal Surrogate	V019-2648-31					
Internal Surrogate Concentration	50/500ppm					
					Analysis Date	4/17/2019
dilutions & MS/MSD made by	Devin Gomez				Sequence loaded by	Devin Gomez
					Data processed by	kenrickb
					Batch ID	V3D6273
Rough Review Completed	Jessica Potts 4/18/19				Matrix	AQ
Initial Calibration Method	M3D6212				Approved By:	MOHUI
pH Paper Lot#	217518				Approved Date:	4/19/2019 2:36:47 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
3D	146705	BFB/CC6212-50		NA			5			1	ok/ok	50uL ABK, EC, Acrolein/100mL 6:36pm # 11 low
3D	146706	CC6212-2		NA			5			2	ok	2uL ABK, EC, Acrolein/100mL for # 11
3D	146707	BS		NA			5			3	ok	50uL ABK, EC, Acrolein/100mL
3D	146708	BSD		NA			5			4	ok	50uL ABK, EC, Acrolein/100mL
3D	146709	IB		NA			5			5	ok	
3D	146710	MB		NA			5			6	ok	
3D	146711	JC86495-2	1	20X	MS34069	V8260MCP	2.5/50		1	7	ok	MCP Program Code RR 5X to push/ combine for QC
3D	146712	JC86495-2MS	1	20X	MS34069	V8260MCP	2.5/50		1	8	ok	50uL ABK, EC, Acrolein/100mL
3D	146713	JC86495-2MSD	1	20X	MS34069	V8260MCP	2.5/50		1	9	ok	50uL ABK, EC, Acrolein/100mL
3D	146714	IB		NA			5			10	ok	
3D	146715	JC86495-11	2	NA	MS34069	V8260MCP	5		1	11	ok	MCP Program Code

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
3D	146716	JC86438-1	1	NA	MS34039	V8260MCP	5		1	12	ok	
3D	146717	JC86438-2	1	200X	MS34039	V8260MCP	0.25/50		1	13	ok	RR 50X L/D
3D	146718	JC86426-1	13	2.5X	MS34042	V8260MCP	20/50		1	14	ok	RR 25X F/D
3D	146719	JC86426-2	1	NA	MS34042	V8260MCP	5		1	15	ok	
3D	146720	JC86426-3	1	NA	MS34042	V8260MCP	5		1	16	ok	
3D	146721	JC86426-4	1	NA	MS34042	V8260MCP	5		1	17	ok	
3D	146722	JC86426-5	1	NA	MS34042	V8260MCP	5		1	18	ok	
3D	146723	JC86495-1	1	NA	MS34069	V8260MCP	5		1	19	ok	MCP Program Code
3D	146724	JC86495-3	1	NA	MS34069	V8260MCP	5		1	20	ok	MCP Program Code
3D	146725	JC86495-4	1	NA	MS34069	V8260MCP	5		1	21	ok	MCP Program Code
3D	146726	JC86495-4	1	10X	MS34069	V8260MCP	5/50		1	22	ok	MCP Program Code +3D146725
3D	146727	JC86495-5	1	NA	MS34069	V8260MCP	5		1	23	ok	MCP Program Code
3D	146728	JC86495-6	1	NA	MS34069	V8260MCP	5		1	24	ok	MCP Program Code
3D	146729	JC86495-7	2	10X	MS34069	V8260MCP	5/50		1	25	ok	MCP Program Code
3D	146730	JC86495-7	2	100X	MS34069	V8260MCP	0.5/50		1	26	ok	MCP Program Code +3D146729
3D	146731	JC86495-8	2	NA	MS34069	V8260MCP	5		1	27	ok	MCP Program Code
3D	146732	JC86495-9	2	NA	MS34069	V8260MCP	5		1	28	ok	MCP Program Code
3D	146733	JC86495-10	2	NA	MS34069	V8260MCP	5		1	29	ok	MCP Program Code (6:31 am) 4/18/19

GCMS Volatile Run Log

Standard / Reagents	Lot #				Column	Rxi-624(30mx0.25mmx1.4um)
Standard	ABK: V019-2648-40.33	EC: V019-2648-71.12	Acrolein: V019-2648-54.12		Method	V8260C
Standard Concentration	100-10,000ppm	100ppm	100ppm		Init Calib Date	3/8/2019
Internal Surrogate	V019-2648-31					
Internal Surrogate Concentration	50/500ppm					
					Analysis Date	4/18/2019
					Sequence loaded by	Jessica Potts
					Data processed by	kenrickb
					Batch ID	V3D6274
					Matrix	AQ
Initial Calibration Method	M3D6212				Approved By:	MEI
pH Paper Lot#	217518				Approved Date:	4/19/2019 8:56:01 AM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
3D	146734	IB		NA			5			1		
3D	146735	BFB/CC6212-20		NA			5			2	ok/ok	20uL ABK, EC, Acrolein/100mL (7:26 am) # 11 low
3D	146736	CC6212-2		NA			5			3	ok	2uL ABK, EC, Acrolein/100mL For # 11
3D	146737	BS		NA			5			4	ok	50uL ABK, EC, Acrolein/100mL
3D	146738	BSD		NA			5			5	ok	50uL ABK, EC, Acrolein/100mL
3D	146739	IB		NA			5			6	ok	
3D	146740	MB		NA			5			7	ok	
3D	146741	JC85903-4	2	NA	MS33825	V8260TCL20+	5		1	8	ok	
3D	146742	JC86494-4	1	10X	MS34073	V8260MCP	5/50		1	9	ok/DL	rr l/d 2x
3D	146743	JC86308-2	18	10X	MS34002	V8260SL	5/50		1	10	ok	+4D93482
3D	146744	JC86353-7	4	NA	MS33984	V8260BTXMT,VLS	5		1	11	ok	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
3D	146745	JC86343-2	1	NA	MS33984	V8260BENZ, VLS	5		1	12	ok	
3D	146746	JC86494-4MS	1	10X	MS34073	V8260MCP	5/50		1	13	ok	50uL ABK, EC, Acrolein/100mL
3D	146747	JC86494-4MSD	1	10X	MS34073	V8260MCP	5/50		1	14	ok	50uL ABK, EC, Acrolein/100mL
3D	146748	IB		NA			5			15	ok	
3D	146749	JC86495-2	2	5X	MS34069	V8260MCP	10/50		1	16	ok	+3D146711
3D	146750	JC86438-2	2	50X	MS34039	V8260MCP	1/50		1	17	ok	+3D146717
3D	146751	JC86414-2	3	10X	MS34044	V8260RCP	5/50		1	18	ok	
3D	146752	JC86426-1	14	25X	MS34042	V8260MCP	2/50		1	19	ok	+3D146718
3D	146753	JC86520-4	2	NA	MS34078	V8260CP51G, ETHL	5		1	20	ok	
3D	146754	JC86494-1	1	NA	MS34073	V8260MCP	5		1	21	ok	
3D	146755	JC86494-2	1	NA	MS34073	V8260MCP	5		1	22	ok	
3D	146756	JC86494-3	1	NA	MS34073	V8260MCP	5		1	23	ok	
3D	146757	JC86520-1	2	NA	MS34078	V8260CP51G, ETHL	5		1	24	ok	
3D	146758	JC86520-2	2	NA	MS34078	V8260CP51G, ETHL	5		1	25	ok	
3D	146759	JC86520-3	2	NA	MS34078	V8260CP51G, ETHL	5		1	26	ok/DL	18-Apr-2019 05:59 pm. Rr f/d 20x

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA1690-MB	AA72073.D	1	04/18/19	GP	n/a	n/a	GAA1690

The QC reported here applies to the following samples: **Method:** RSK-175

JC86426-1

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	ND	0.11	ug/l	
74-84-0	Ethane	ND	0.23	ug/l	
74-85-1	Ethene	ND	0.31	ug/l	

Laboratory Control Sample Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA1690-LCS	AA72067.D	1	04/18/19	GP	n/a	n/a	GAA1690

The QC reported here applies to the following samples: **Method:** RSK-175

JC86426-1

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
74-82-8	Methane	11	12.1	110	59-134
74-84-0	Ethane	23	24.2	105	63-135
74-85-1	Ethene	31	29.7	96	62-133

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA53751-1DUP	AA72092.D	1	04/18/19	GP	n/a	n/a	GAA1690
LA53751-1	AA72089.D	1	04/18/19	GP	n/a	n/a	GAA1690
LA53751-1	AA72094.D	40	04/18/19	GP	n/a	n/a	GAA1690

The QC reported here applies to the following samples: **Method:** RSK-175

JC86426-1

CAS No.	Compound	LA53751-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	4080 [a]		772	E	10	20
74-84-0	Ethane	ND		ND		nc	20
74-85-1	Ethene	ND		ND		nc	20

(a) Result is from Run #2.

* = Outside of Control Limits.

Initial Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: GAA611-ICC611
Lab FileID: AA44604.D

Response Factor Report GCAA

Method : C:\MSDCHEM\1\METHODS\MAA611.M (ChemStation Integrator)
Title : METHOD V8015 DG by GC-FID
Last Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration

Calibration Files
200 =AA44605.D 100 =AA44604.D 20 =AA44603.D 10 =AA44602.D
2 =AA44601.D 1 =AA44608.D 500 =AA44606.D 1000=AA44607.D
2000=AA38039.D = = =

Compound	200	100	20	10	2	1	500	1000	2000	Avg	%RSD
1) Methane	3.495	2.972	2.227	3.034	2.500	1.220	2.833	2.689		2.621 E4	25.95
2) Ethane	6.678	5.691	4.213	4.974	4.212	2.201	5.484	5.197		4.831 E4	27.56
3) Ethene	6.666	5.675	4.188	4.964	4.177	2.494	5.473	5.191		4.853 E4	25.76
4) Propane	9.771	8.352	6.261	7.405	6.062	2.808	8.032	7.596		7.036 E4	29.46
5) Propylene										0.000	-1.00
6) Isobutane										0.000	-1.00
7) n-Butane	1.333	1.138	0.891	1.078	0.825	0.361	1.098	1.037		0.970 E5	29.93
8) Acetylene										0.000	-1.00
9) n-Pentane	1.628	1.355	1.158	1.454	1.011	0.481	1.331	1.258		1.210 E5	28.73
10) Hexane	1.898	1.462	1.503	1.959	1.335	0.900	1.542	1.454		1.506 E5	21.88

(#) = Out of Range ### Number of calibration levels exceeded format ###

MAA611.M Wed Feb 04 14:15:12 2015 S

8.4.1

8

Initial Calibration Verification

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: GAA611-ICV611
Lab FileID: AA44609.D

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\
Data File : AA44609.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:59 pm
Operator : THOMASH
Sample : ICV611-100
Misc : GC45339,GAA611,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 14:15:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	Methane	26.211	28.583 E3	-9.0	96	0.00
2	Ethane	48.315	54.762 E3	-13.3	96	0.00
3	Ethene	48.534	54.783 E3	-12.9	97	0.00
4	Propane	70.357	80.260 E3	-14.1	96	0.00
7	n-Butane	97.009	107.063 E3	-10.4	94	0.00
9	n-Pentane	120.954	120.719 E3	0.2	89	-0.02
10	Hexane	150.637	131.911 E3	12.4	90	-0.03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

MAA611.M Wed Feb 04 14:16:18 2015 S

Continuing Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: GAA1690-CC611
Lab FileID: AA72066.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\AA72066.d Vial: 1
Acq On : 18 Apr 2019 8:06 am Operator: gabriep
Sample : cc611-100 Inst : GCAA
Misc : GC54212,GAA1690,,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\msdchem\1\methods\maa611.m (ChemStation Integrator)
Title : METHOD V8015 DG by GC-FID
Last Update : Wed Aug 17 09:21:43 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methane	26.211	24.624 E3	6.1	83	0.02	0.85- 1.85
2	Ethane	48.315	45.505 E3	5.8	80	0.00	1.27- 2.27
3	Ethene	48.534	45.570 E3	6.1	80	0.00	1.98- 2.98
4	Propane	70.357	66.960 E3	4.8	80	-0.02	2.42- 3.42
5	n-Butane	97.009	79.664 E3	17.9#	70	-0.03	3.65- 4.65
6	n-Pentane	120.954	88.305 E3	27.0#	65	-0.03	4.71- 5.71
7	Hexane	150.637	89.603 E3	40.5#	61	-0.04	5.92- 6.92

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA44604.D maa611.m Thu Apr 18 16:54:10 2019 GCAA

Continuing Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: GAA1690-CC611
Lab FileID: AA72081.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\AA72081.d Vial: 16
Acq On : 18 Apr 2019 12:27 pm Operator: gabriep
Sample : CC611-100 Inst : GCAA
Misc : GC54234,GAA1690,,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\msdchem\1\methods\maa611.m (ChemStation Integrator)
Title : METHOD V8015 DG by GC-FID
Last Update : Wed Aug 17 09:21:43 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methane	26.211	23.523 E3	10.3	79	0.02	0.85- 1.85
2	Ethane	48.315	44.548 E3	7.8	78	0.00	1.27- 2.27
3	Ethene	48.534	44.440 E3	8.4	78	0.00	1.98- 2.98
4	Propane	70.357	66.930 E3	4.9	80	-0.02	2.42- 3.42
5	n-Butane	97.009	83.743 E3	13.7	74	-0.03	3.65- 4.65
6	n-Pentane	120.954	98.938 E3	18.2#	73	-0.05	4.69- 5.69
7	Hexane	150.637	103.982 E3	31.0#	71	-0.08	5.89- 6.89

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA44604.D maa611.m Thu Apr 18 16:54:12 2019 GCAA

8.4.4

Continuing Calibration Summary

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: GAA1690-CC611
Lab FileID: AA72096.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\AA72096.d Vial: 31
Acq On : 18 Apr 2019 5:02 pm Operator: gabriep
Sample : CC611-100 Inst : GCAA
Misc : GC54228,GAA1690,,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\msdchem\1\methods\maa611.m (ChemStation Integrator)
Title : METHOD V8015 DG by GC-FID
Last Update : Wed Aug 17 09:21:43 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methane	26.211	26.770 E3	-2.1	90	0.02	0.85- 1.85
2	Ethane	48.315	50.408 E3	-4.3	89	0.00	1.27- 2.27
3	Ethene	48.534	50.436 E3	-3.9	89	0.00	1.98- 2.98
4	Propane	70.357	75.368 E3	-7.1	90	-0.02	2.42- 3.42
5	n-Butane	97.009	93.702 E3	3.4	82	-0.03	3.65- 4.65
6	n-Pentane	120.954	111.958 E3	7.4	83	-0.05	4.69- 5.69
7	Hexane	150.637	119.394 E3	20.7#	82	-0.08	5.88- 6.88

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA44604.D maa611.m Thu Apr 18 17:14:22 2019 GCAA

8.4.5

GC Volatiles

Raw Data

Manual Integrations APPROVED
(compounds with "m" flag)
Dana Tryon
04/22/19 09:26

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72078.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 11:34 am
Operator : gabriep
Sample : JC86426-1
Misc : GC54234,GAA1690,,,,,1
ALS Vial : 13 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 17:13:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

Compound	R.T.	Response	Conc Units
Target Compounds			
1) Methane	1.348	1638527	62.512 PPMV m

(f)=RT Delta > 1/2 Window (m)=manual int.

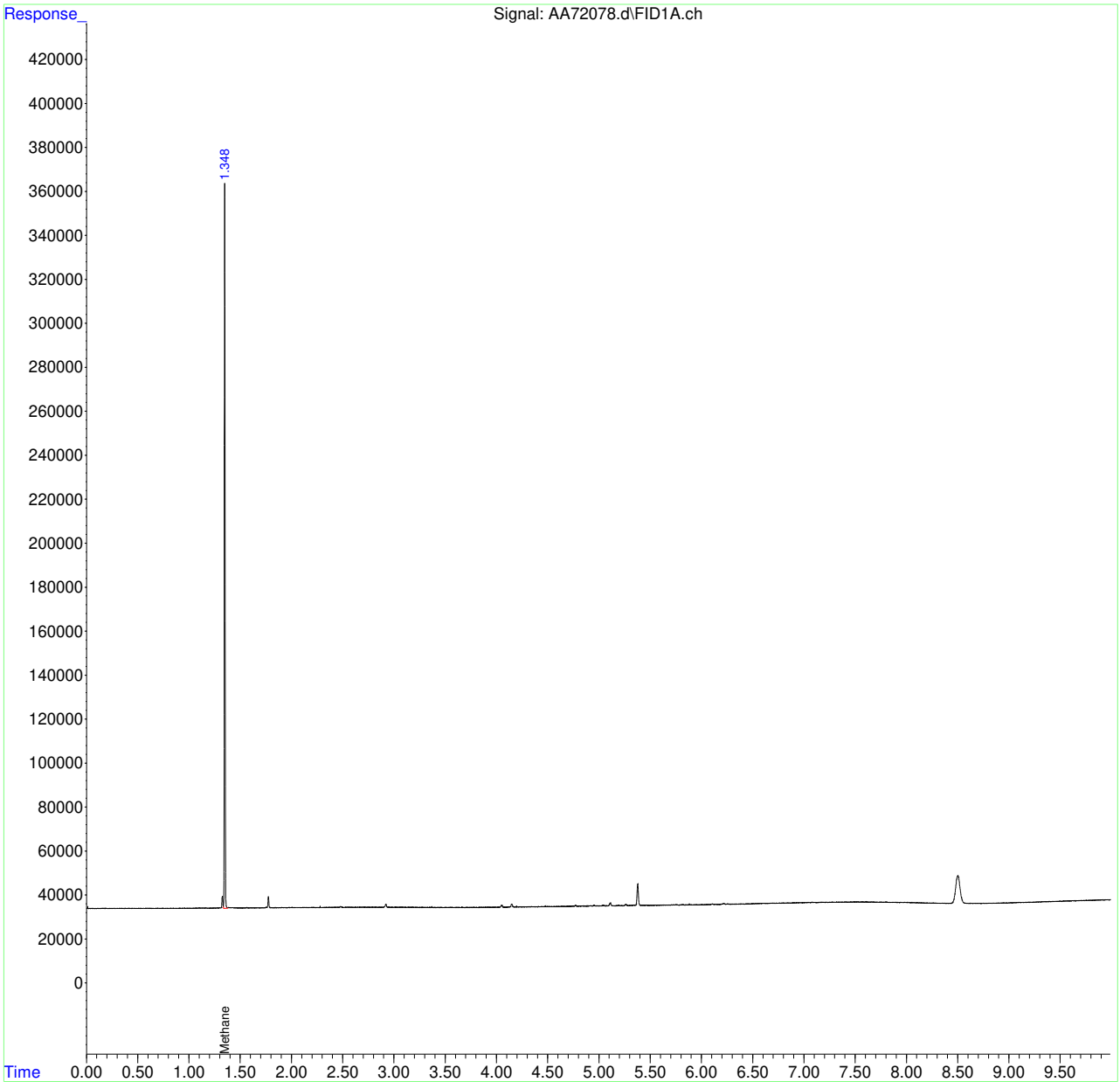
9.1.1
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72078.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 11:34 am
Operator : gabriep
Sample : JC86426-1
Misc : GC54234,GAA1690,,,,,1
ALS Vial : 13 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 17:13:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: JC86426-1
Lab FileID: AA72078.D
Injection Time: 04/18/19 11:34
Method: RSK-175
Analyst approved: 04/20/19 07:52 Gabriella Pericone
Supervisor approved: 04/22/19 09:26 Dana Tryon

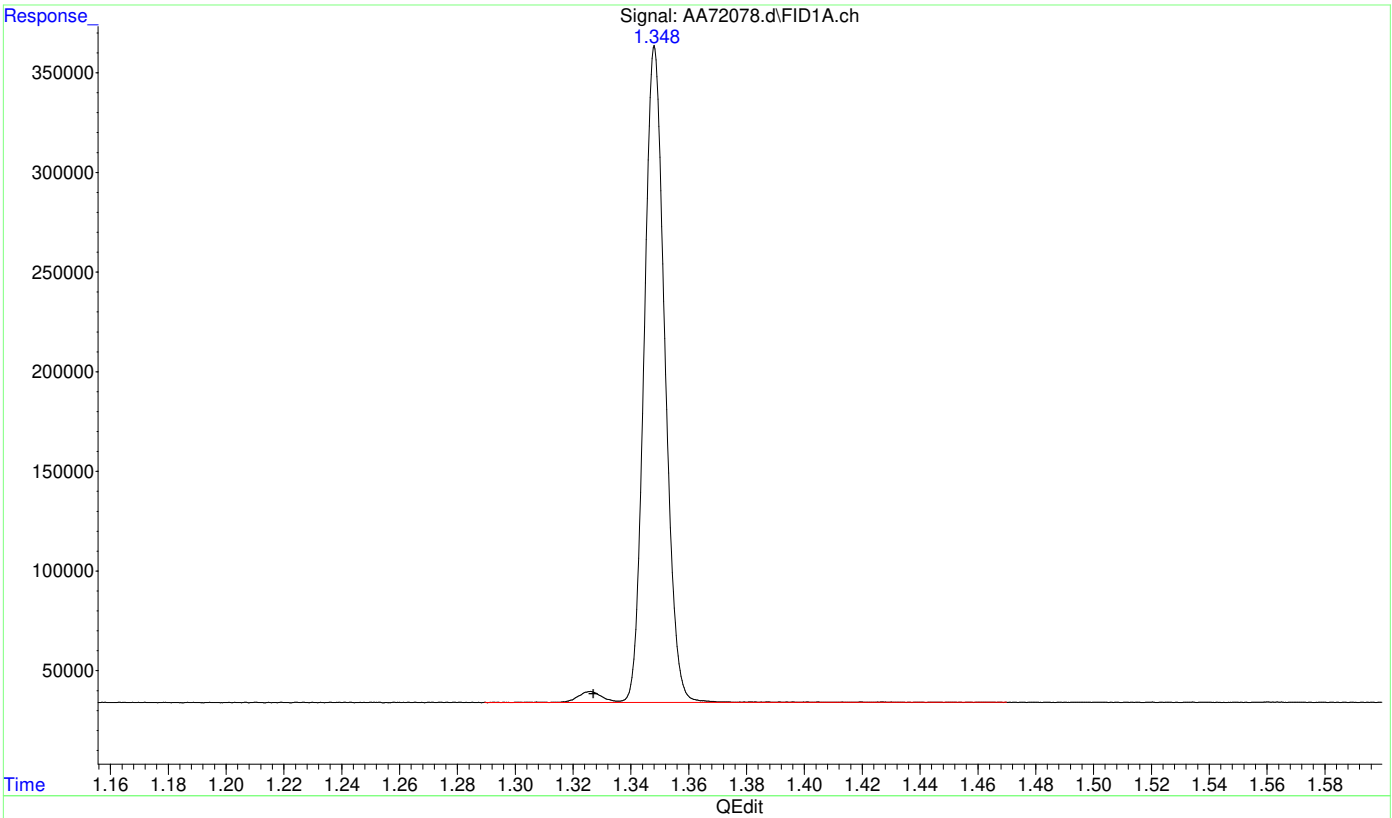
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.35	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72078.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 11:34 am
Operator : gabriep
Sample : JC86426-1
Misc : GC54234,GAA1690,,,,,1
ALS Vial : 13 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 11:45:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.349min 63.814 PPMV

response 1672648

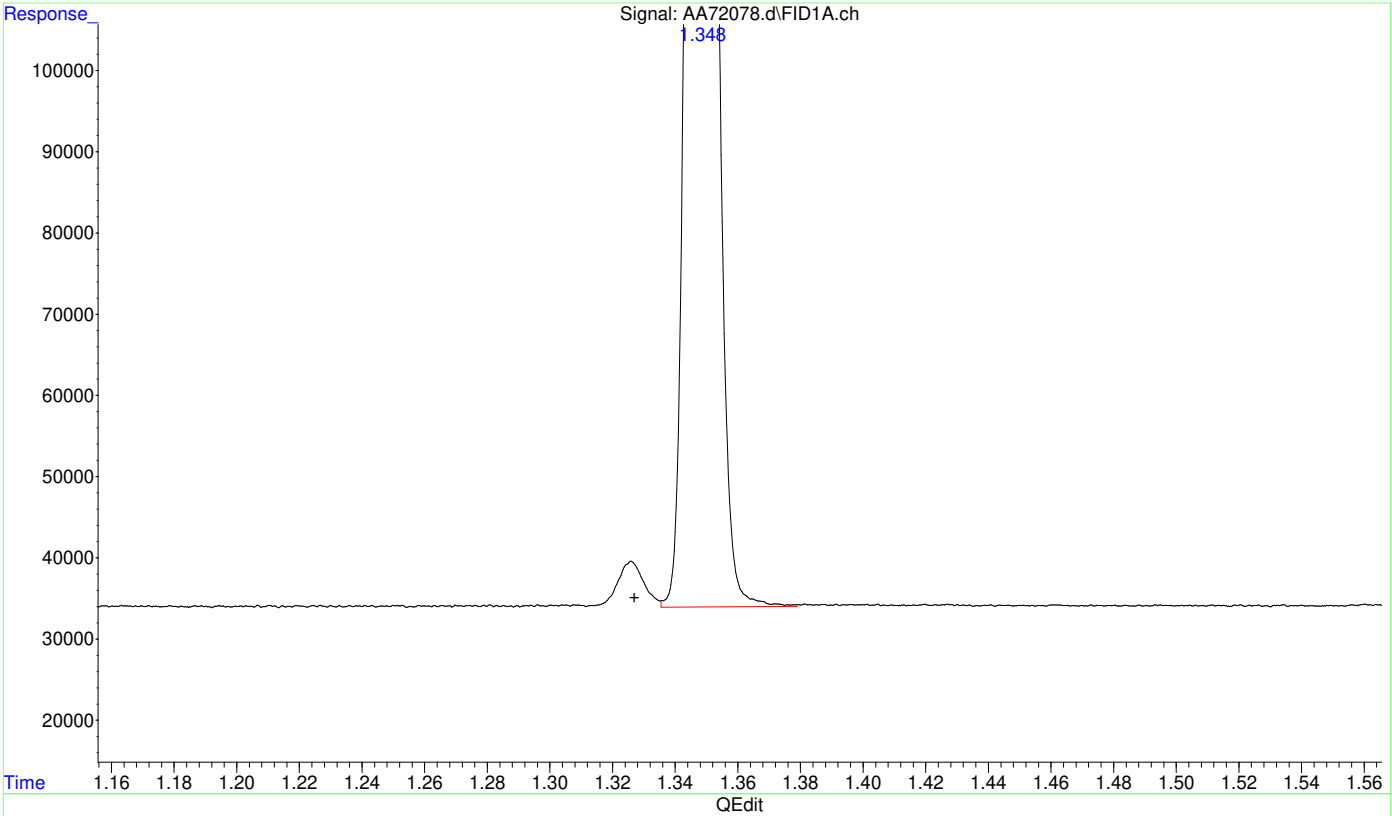
(+) = Expected Retention Time
maa611.m Thu Apr 18 17:12:48 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72078.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 11:34 am
Operator : gabriep
Sample : JC86426-1
Misc : GC54234,GAA1690,,,,,1
ALS Vial : 13 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 11:45:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.348min 62.512 PPMV m

response 1638527

(+) = Expected Retention Time
maa611.m Thu Apr 18 17:13:11 2019 GCAA

Dissolved Gas Calculation Worksheet

C:\msdchem\1\data\AA72078.d

Data File Name **AA72078.d**
Date Acquired **4/18/2019 11:34**
Sample Name **JC86426-1**
Sample Multiplier **1**
Temperature(C) **22**
Headspace Vol. (cc) **5**
Sample Vol(cc) **39**

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Peak Area	Helium Blank	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	RL (ug/l)	Report (ug/l)
METHANE	16	22.4	55.5	295	24.21	1638527.17	9168	62.16	41.09	5.27	39080	1.412	6.68	0.10	**6.68**
ETHANE	30	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	27860	#DIV/0!	#DIV/0!	0.23	**#DIV/0!**
ETHYLENE	28	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10680	#DIV/0!	#DIV/0!	0.31	**#DIV/0!**
Propane	44	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	33643	#DIV/0!	#DIV/0!	0.33	**#DIV/0!**
n-Butane	58	22.4	55.5	295	24.21	0	0	0.00	0.00	0.00	40945	0.000	0.000	0.41	**ND**

*** ppmv is corrected for helium blank background peak area**

Definitions,

Molar Volume	**The volume of 1 mole of any gas at standard temperature and pressure(STP)**
Water g/Moles	**1 Liter of water is equal to 55.5g-moles**
Temp-kelvin	**Is defined as 273 + degress C**
Corrected Gas Density	**Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)**
Headspace conc(ug/l)	**Is equal to (ppmv reading) x (mw/corrected gas density)**
Water Concentration(ug/l)	**Is equal to headspace conc(ug/l) x headspace vol/sample vol**
Saturation Concentration(ug/l)	**Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)**

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900
Propane	31474	32552	33643	34744	35857	36978	38107	39244	40387	41535	42688
n-Butane	38111	39507	40945	42425	43947	45514	47125	48782	50486	52238	52339

C:\msdchem\custrpt\NATATT.CRT

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/19/19 18:52

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72073.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 10:17 am
Operator : gabriep
Sample : MB
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 10:30:57 2019
Quant Method : C:\msdchem\1\methods\maa611.m
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Aug 17 09:21:43 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc Units
Target Compounds				
1)	Methane	1.329	10036	0.383 PPMV m

(f)=RT Delta > 1/2 Window (m)=manual int.

9.2.1

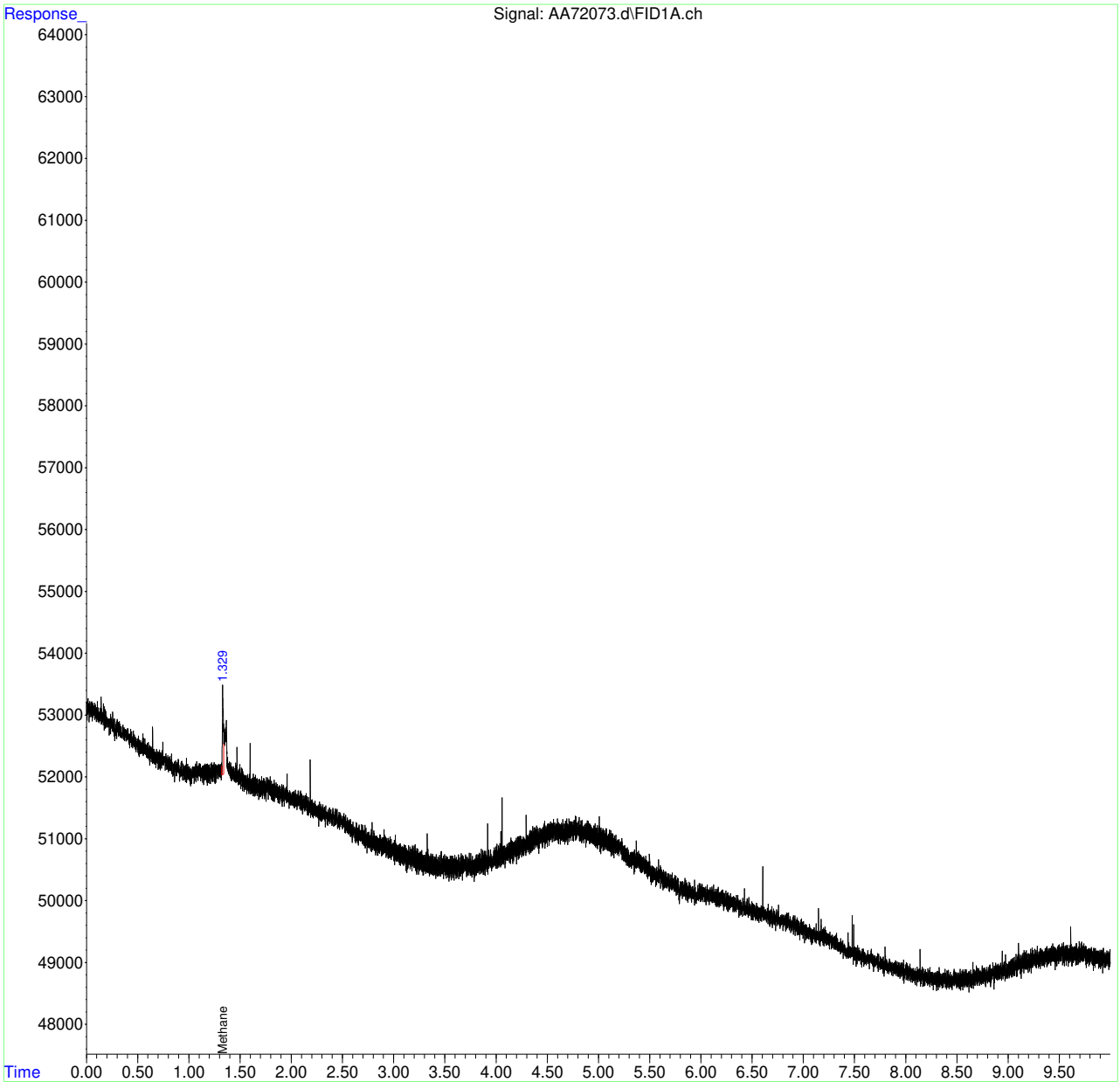
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72073.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 10:17 am
Operator : gabriep
Sample : MB
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 10:30:57 2019
Quant Method : C:\msdchem\1\methods\maa611.m
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Aug 17 09:21:43 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: GAA1690-MB
Lab FileID: AA72073.D
Injection Time: 04/18/19 10:17
Method: RSK-175
Analyst approved: 04/18/19 16:57 Gabriella Pericone
Supervisor approved: 04/19/19 18:52 Kanya Veerawat

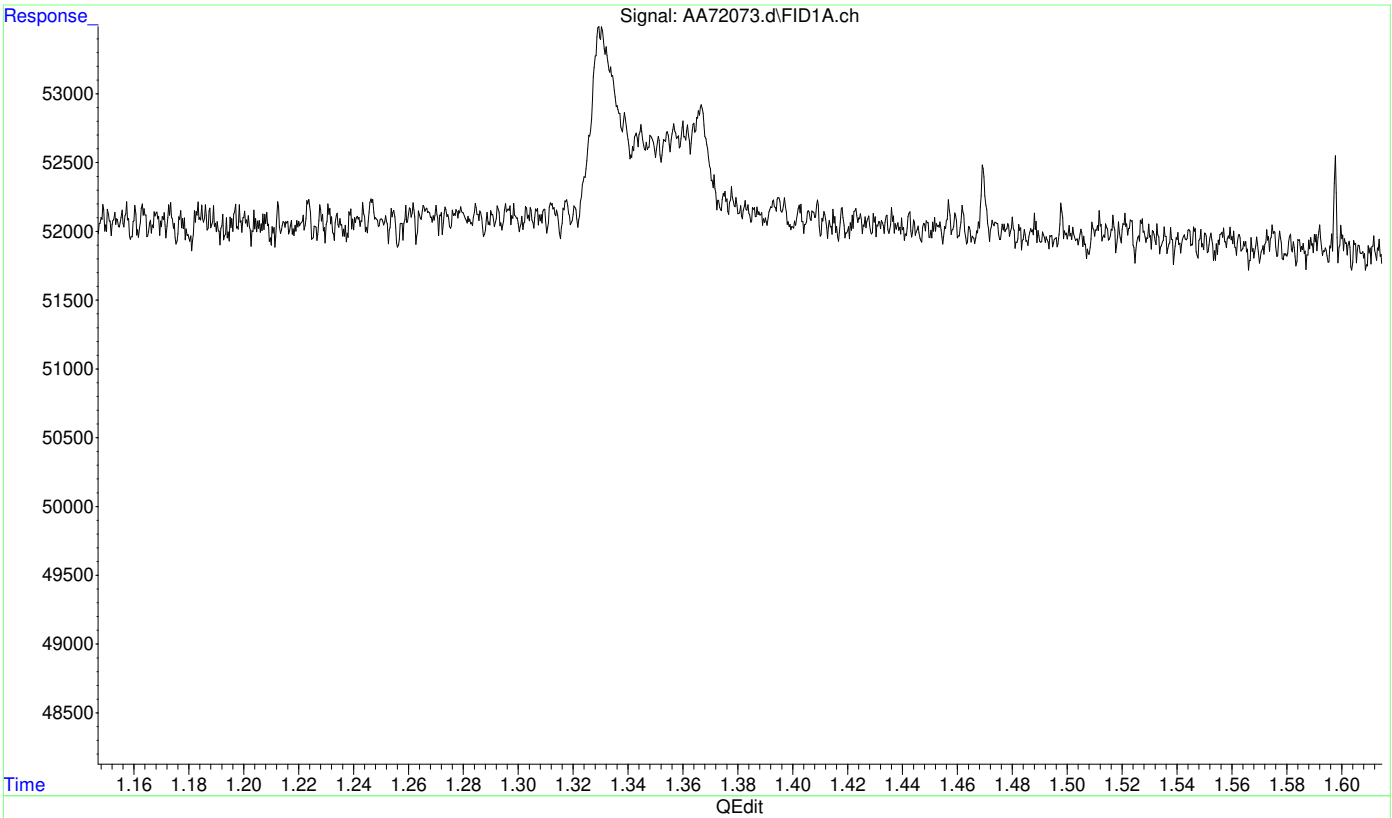
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.33	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72073.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 10:17 am
Operator : gabriep
Sample : MB
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 10:30:40 2019
Quant Method : C:\msdchem\1\methods\maa611.m
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Aug 17 09:21:43 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.327min 0.000 PPMV

response 0

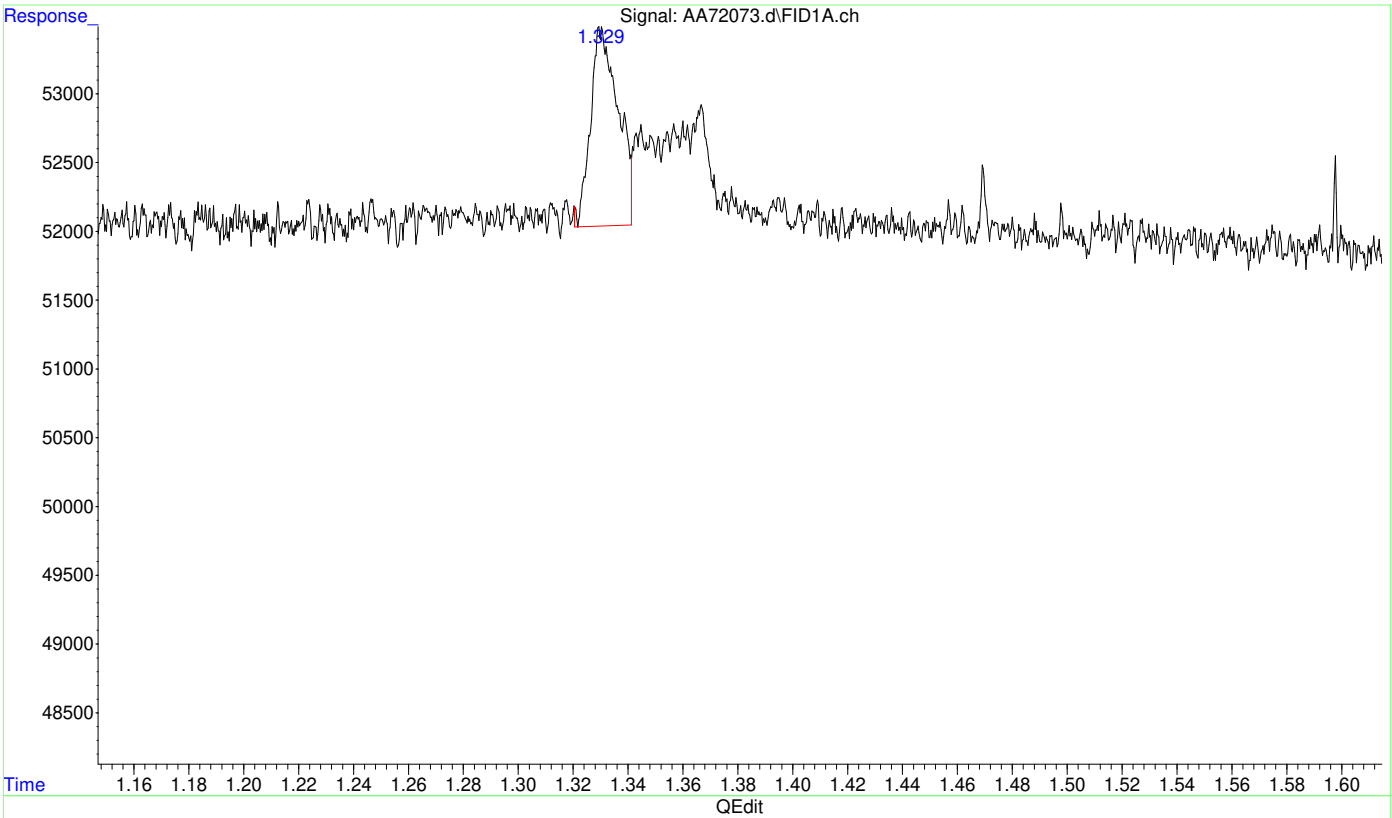
(+) = Expected Retention Time
maa611.m Thu Apr 18 10:30:47 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72073.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 10:17 am
Operator : gabriep
Sample : MB
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 10:30:40 2019
Quant Method : C:\msdchem\1\methods\maa611.m
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Aug 17 09:21:43 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.329min 0.383 PPMV m

response 10036

(+) = Expected Retention Time
maa611.m Thu Apr 18 10:31:02 2019 GCAA

Dissolved Gas Calculation Worksheet

C:\msdchem\1\data\AA72073.d

Data File Name **AA72073.d**
Date Acquired **4/18/2019 10:17**
Sample Name **MB**
Sample Multiplier **1**
Temperature(C) **22**
Headspace Vol. (cc) **5**
Sample Vol(cc) **37**

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Peak Area	Helium Blank	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	RL (ug/l)	Report (ug/l)
METHANE	16	22.4	55.5	295	24.21	10036.031	9168	0.03	0.02	0.00	39080	0.001	0.00	0.10	**ND**
ETHANE	30	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	27860	#DIV/0!	#DIV/0!	0.23	**#DIV/0!**
ETHYLENE	28	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10680	#DIV/0!	#DIV/0!	0.31	**#DIV/0!**
Propane	44	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	33643	#DIV/0!	#DIV/0!	0.33	**#DIV/0!**
n-Butane	58	22.4	55.5	295	24.21	0	0	0.00	0.00	0.00	40945	0.000	0.000	0.41	**ND**

*** ppmv is corrected for helium blank background peak area**

Definitions,

Molar Volume	**The volume of 1 mole of any gas at standard temperature and pressure(STP)**
Water g/Moles	**1 Liter of water is equal to 55.5g-moles**
Temp-kelvin	**Is defined as 273 + degress C**
Corrected Gas Density	**Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)**
Headspace conc(ug/l)	**Is equal to (ppmv reading) x (mw/corrected gas density)**
Water Concentration(ug/l)	**Is equal to headspace conc(ug/l) x headspace vol/sample vol**
Saturation Concentration(ug/l)	**Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)**

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900
Propane	31474	32552	33643	34744	35857	36978	38107	39244	40387	41535	42688
n-Butane	38111	39507	40945	42425	43947	45514	47125	48782	50486	52238	52339

C:\msdchem\custrpt\NATATT.CRT

4/18/2019 10:31 AM

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/19/19 18:52

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72067.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 8:31 am
Operator : gabriep
Sample : LCS
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 08:42:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.348	2817514	107.492	PPMV m
2)	Ethane	1.774	5085441	105.257	PPMV
3)	Ethene	2.477	4720884	97.269	PPMV
4)	Propane	2.918	7438137	105.720	PPMV
5)	n-Butane	4.147	9928372	102.345	PPMV
6)	n-Pentane	5.206	10991054	90.870	PPMV
7)	Hexane	6.407	11344853	75.312	PPMV

(f)=RT Delta > 1/2 Window (m)=manual int.

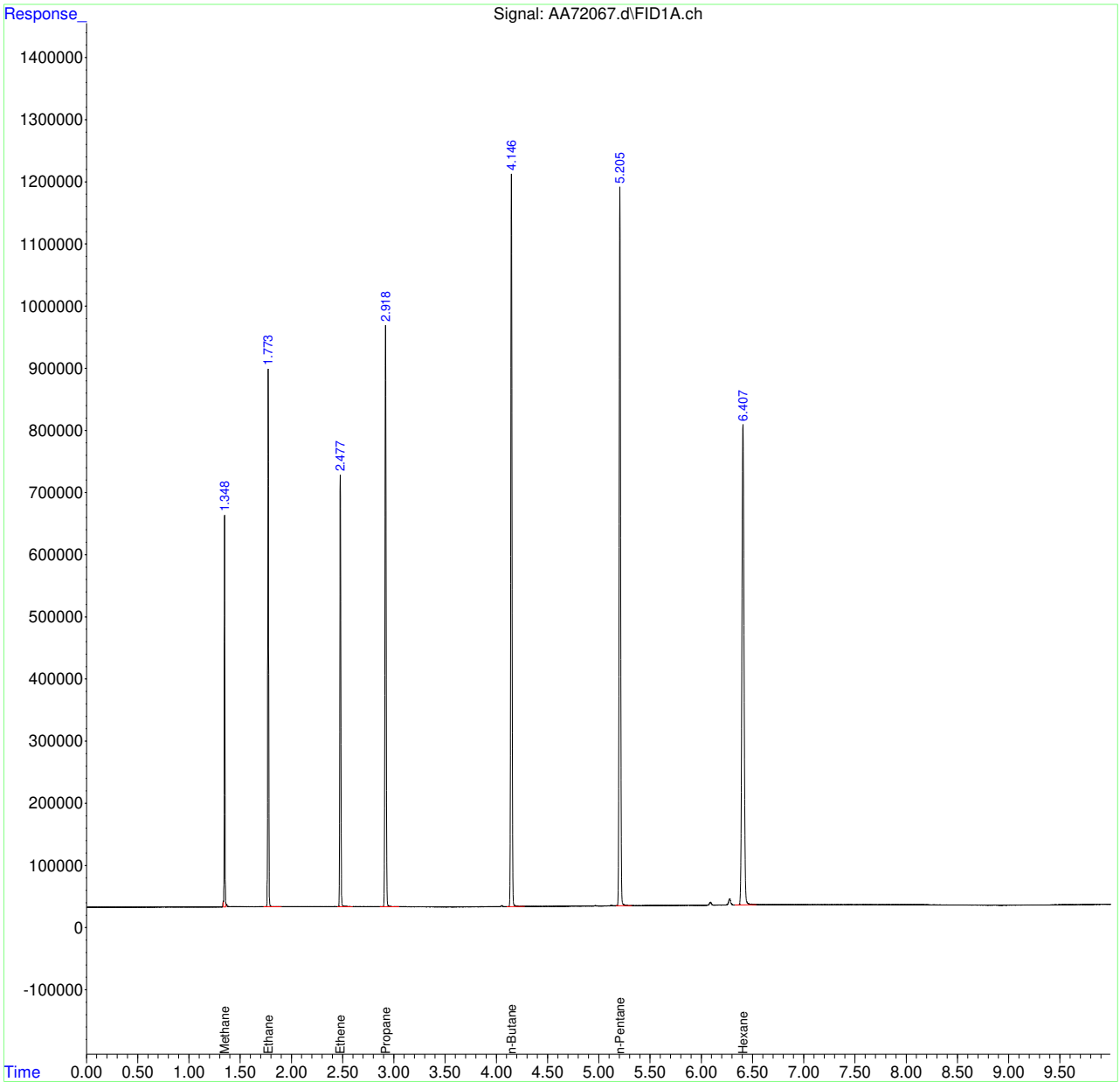
9.3.1
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72067.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 8:31 am
Operator : gabriep
Sample : LCS
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 08:42:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: GAA1690-LCS
Lab FileID: AA72067.D
Injection Time: 04/18/19 08:31
Method: RSK-175
Analyst approved: 04/18/19 16:57 Gabriella Pericone
Supervisor approved: 04/19/19 18:52 Kanya Veerawat

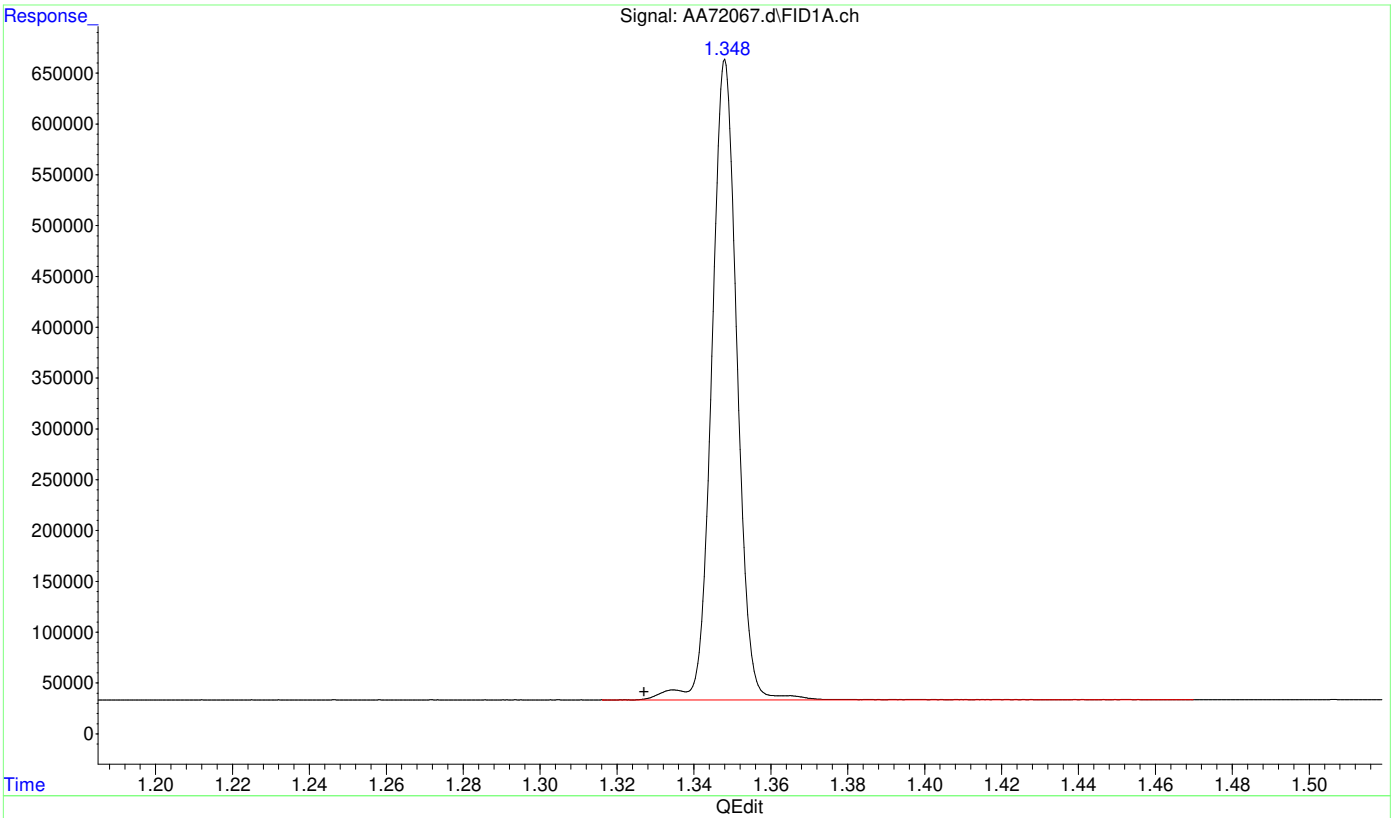
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.35	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72067.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 8:31 am
Operator : gabriep
Sample : LCS
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 08:41:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.349min 110.436 PPMV

response 2894705

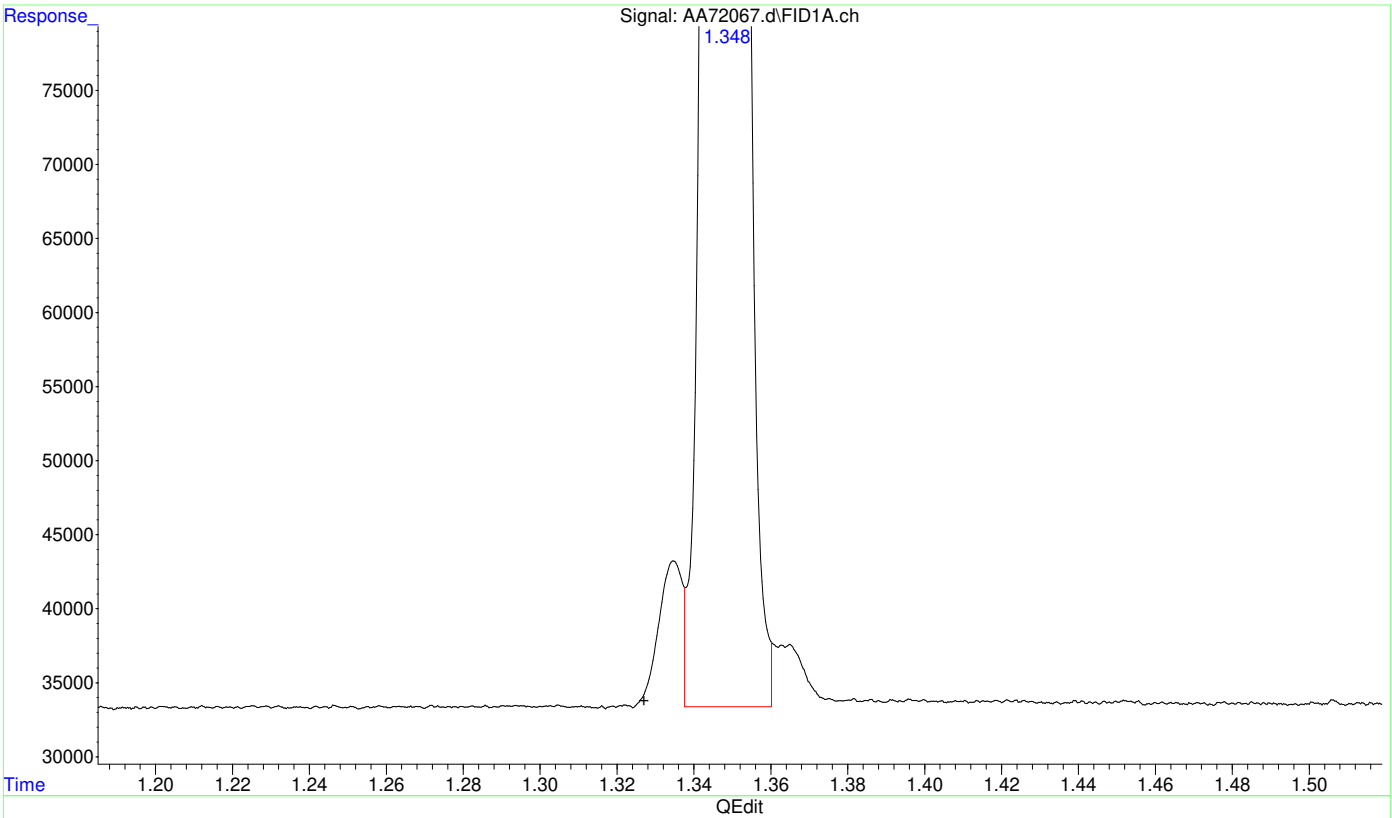
(+) = Expected Retention Time
maa611.m Thu Apr 18 08:42:10 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72067.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 8:31 am
Operator : gabriep
Sample : LCS
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 08:41:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.348min 107.492 PPMV m

response 2817514

(+) = Expected Retention Time

maa611.m Thu Apr 18 08:42:26 2019 GCAA

Dissolved Gas Calculation Worksheet

C:\msdchem\1\data\AA72067.d

Data File Name **AA72067.d**
Date Acquired **4/18/2019 8:31**
Sample Name **LCS**
Sample Multiplier **1**
Temperature(C) **21**
Headspace Vol. (cc) **5**
Sample Vol(cc) **37**

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Peak Area	Helium Blank	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	RL (ug/l)	Report (ug/l)
METHANE	16	22.4	55.5	294	24.12	2817514.12	0	107.49	71.30	9.63	38340	2.490	12.12	0.10	**12.12**
ETHANE	30	22.4	55.5	294	24.12	5085441	0	105.26	130.90	17.69	27080	6.472	24.161	0.23	**24.161**
ETHYLENE	28	22.4	55.5	294	24.12	4720883.54	0	97.27	112.90	15.26	10440	14.479	29.736	0.31	**29.736**
Propane	44	22.4	55.5	294	24.12	7438136.75	0	105.72	192.83	26.06	32552	7.931	33.989	0.33	**33.989**
n-Butane	58	22.4	55.5	294	24.12	9928371.89	0	102.34	246.07	33.25	39507	8.339	41.592	0.41	**41.592**

*** ppmv is corrected for helium blank background peak area**

Definitions,

Molar Volume	**The volume of 1 mole of any gas at standard temperature and pressure(STP)**
Water g/Moles	**1 Liter of water is equal to 55.5g-moles**
Temp-kelvin	**Is defined as 273 + degress C**
Corrected Gas Density	**Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)**
Headspace conc(ug/l)	**Is equal to (ppmv reading) x (mw/corrected gas density)**
Water Concentration(ug/l)	**Is equal to headspace conc(ug/l) x headspace vol/sample vol**
Saturation Concentration(ug/l)	**Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)**

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900
Propane	31474	32552	33643	34744	35857	36978	38107	39244	40387	41535	42688
n-Butane	38111	39507	40945	42425	43947	45514	47125	48782	50486	52238	52339

C:\msdchem\custrpt\NATATT.CRT

4/18/2019 8:43 AM

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72092.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 4:01 pm
Operator : gabriep
Sample : LA53751-1DUP
Misc : GC54228,GAA1690,,,,,1
ALS Vial : 27 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 16:11:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) Methane	1.350	181667975	6930.851	PPMV

(f)=RT Delta > 1/2 Window (m)=manual int.

9.4.1

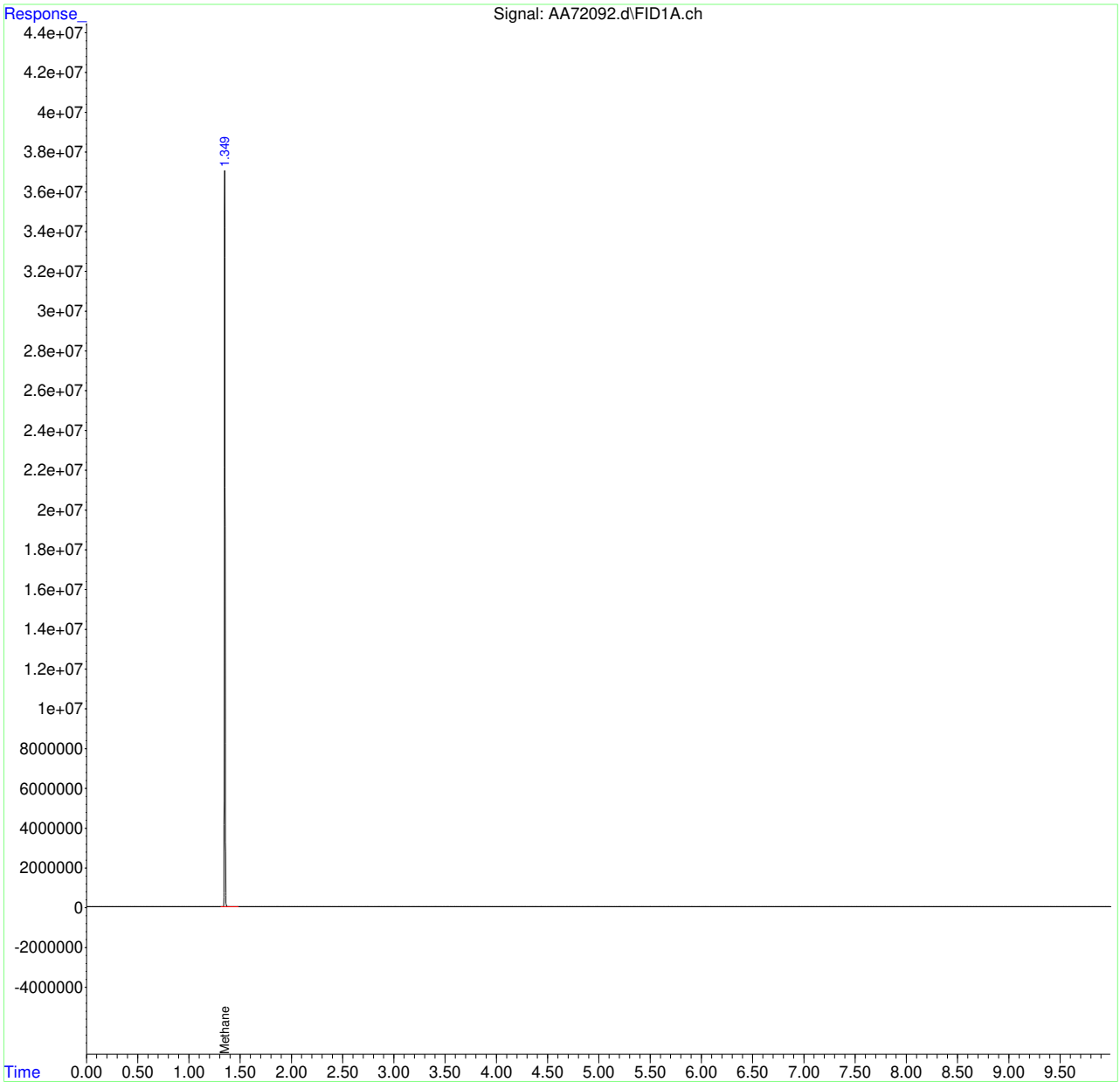
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72092.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 4:01 pm
Operator : gabriep
Sample : LA53751-1DUP
Misc : GC54228,GAA1690,,,,,1
ALS Vial : 27 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 16:11:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Dissolved Gas Calculation Worksheet

C:\msdchem\1\data\AA72092.d

Data File Name **AA72092.d**
Date Acquired **4/18/2019 16:01**
Sample Name **LA53751-1DUP**
Sample Multiplier **1**
Temperature(C) **23**
Headspace Vol. (cc) **5**
Sample Vol(cc) **37**

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Peak Area	Helium Blank	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	RL (ug/l)	Report (ug/l)
METHANE	16	22.4	55.5	296	24.29	181667975	9168	6930.50	4565.70	616.99	39820	154.553	771.54	0.10	**771.54**
ETHANE	30	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	28640	#DIV/0!	#DIV/0!	0.23	**#DIV/0!**
ETHYLENE	28	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10920	#DIV/0!	#DIV/0!	0.31	**#DIV/0!**
Propane	44	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	34744	#DIV/0!	#DIV/0!	0.33	**#DIV/0!**
n-Butane	58	22.4	55.5	296	24.29	0	0	0.00	0.00	0.00	42425	0.000	0.000	0.41	**ND**

*** ppmv is corrected for helium blank background peak area**

Definitions,

Molar Volume	**The volume of 1 mole of any gas at standard temperature and pressure(STP)**
Water g/Moles	**1 Liter of water is equal to 55.5g-moles**
Temp-kelvin	**Is defined as 273 + degress C**
Corrected Gas Density	**Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)**
Headspace conc(ug/l)	**Is equal to (ppmv reading) x (mw/corrected gas density)**
Water Concentration(ug/l)	**Is equal to headspace conc(ug/l) x headspace vol/sample vol**
Saturation Concentration(ug/l)	**Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)**

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900
Propane	31474	32552	33643	34744	35857	36978	38107	39244	40387	41535	42688
n-Butane	38111	39507	40945	42425	43947	45514	47125	48782	50486	52238	52339

C:\msdchem\custrpt\NATATT.CRT

4/20/2019 7:41 AM

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44601.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 9:34 am
Operator : THOMASH
Sample : IC611-2.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:17:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.327	50005	1.586	PPMV
2)	Ethane	1.763	84242	1.724	PPMV
3)	Ethene	2.485	83535	1.725	PPMV
4)	Propane	2.941	121231	1.698	PPMV
7)	n-Butane	4.181	165088	1.643	PPMV
9)	n-Pentane	5.233	202288	1.534	PPMV
10)	Hexane	6.454	266972	1.431	PPMV

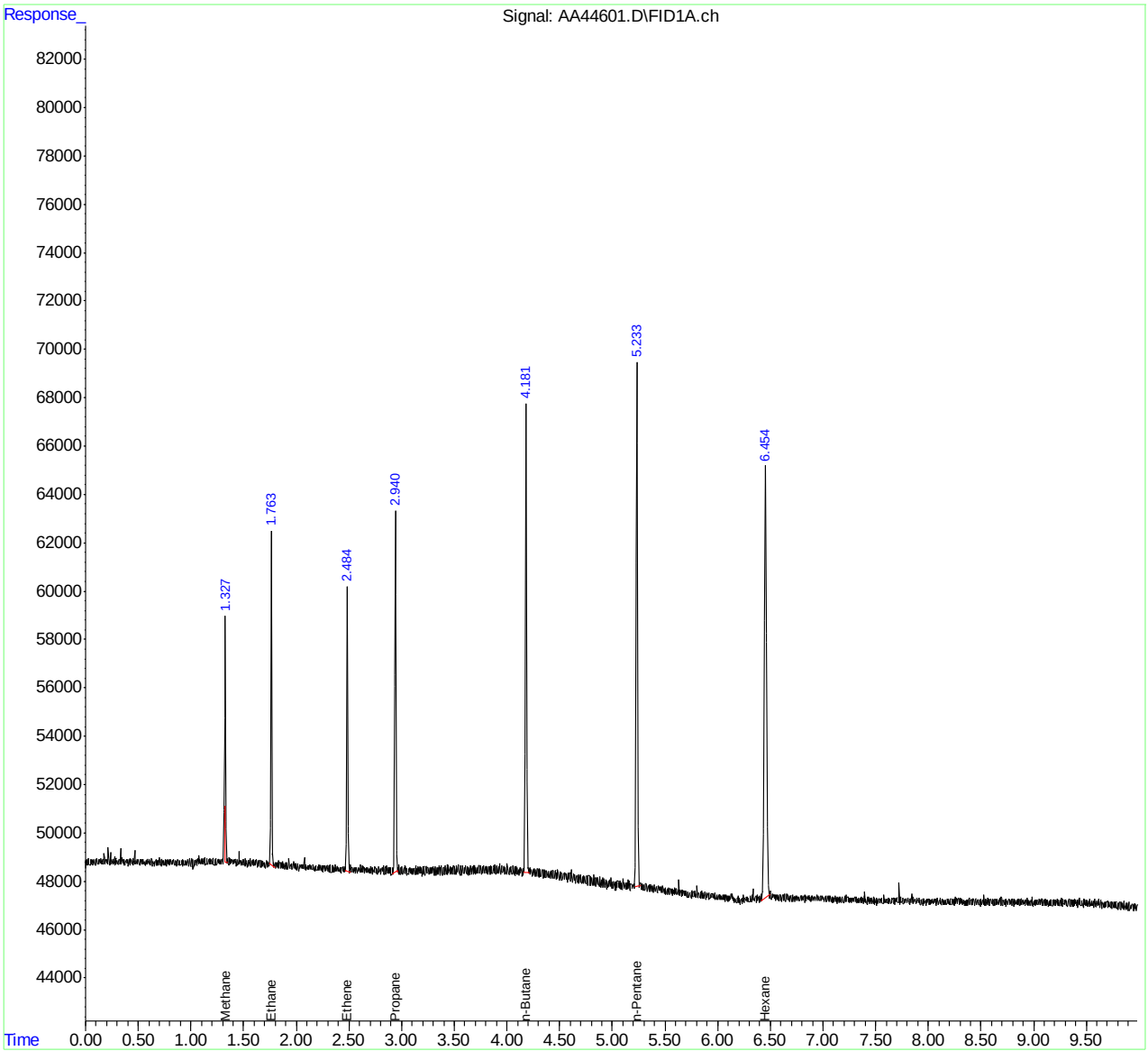
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44601.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 9:34 am
Operator : THOMASH
Sample : IC611-2.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:17:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44602.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 10:01 am
Operator : THOMASH
Sample : IC611-10
Misc : GC45339,GAA611,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.324	303369	9.624	PPMV
2)	Ethane	1.760	497423	10.178	PPMV
3)	Ethene	2.483	496402	10.249	PPMV
4)	Propane	2.940	740534	10.373	PPMV
7)	n-Butane	4.180	1077915	10.728	PPMV
9)	n-Pentane	5.225	1454474	11.028	PPMV
10)	Hexane	6.438	1958501	10.495	PPMV

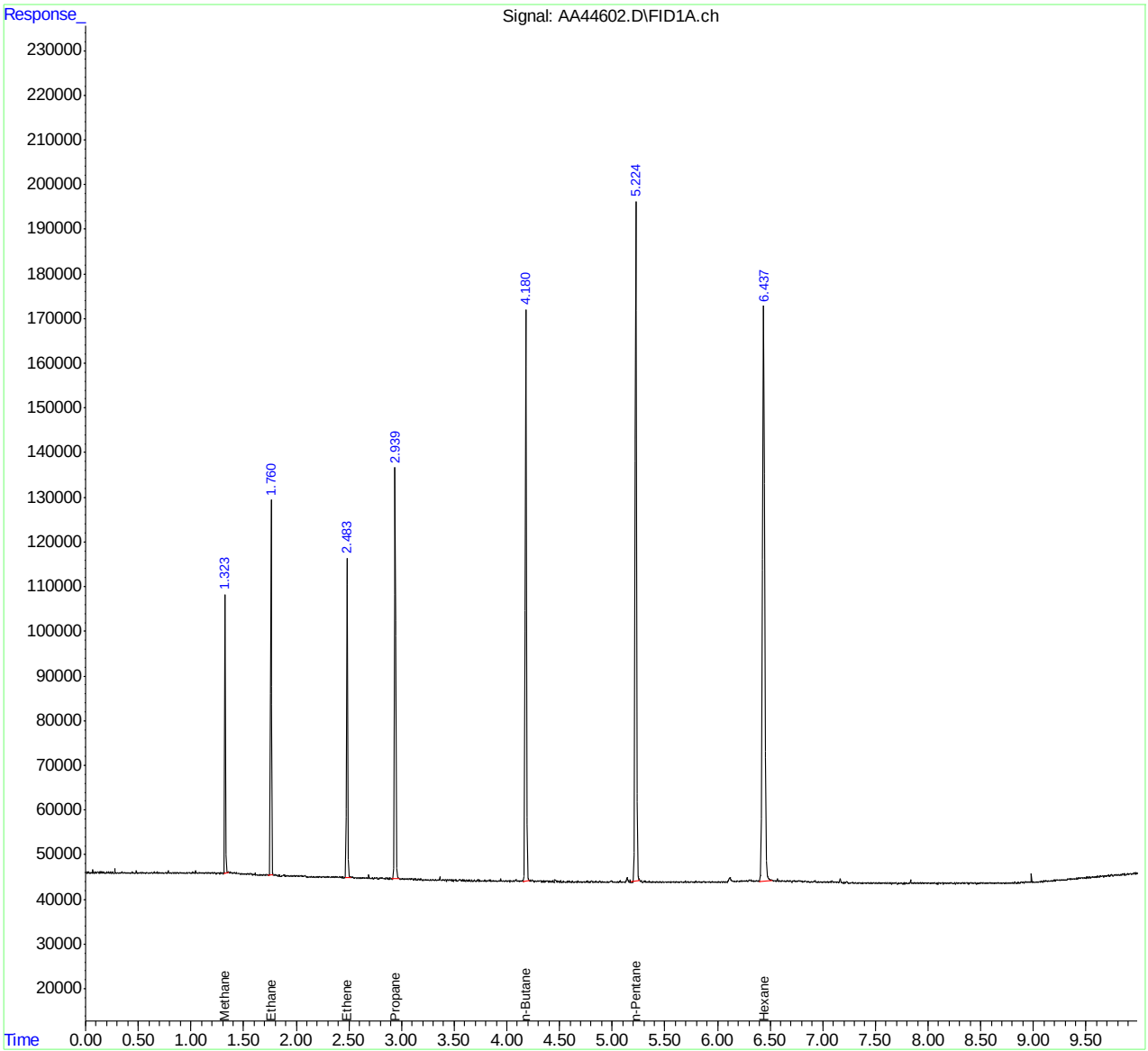
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44602.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 10:01 am
Operator : THOMASH
Sample : IC611-10
Misc : GC45339,GAA611,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44603.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 10:36 am
Operator : THOMASH
Sample : IC611-20
Misc : GC45339,GAA611,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.328	445428	14.131	PPMV
2)	Ethane	1.764	842679	17.243	PPMV
3)	Ethene	2.485	837503	17.292	PPMV
4)	Propane	2.941	1252123	17.539	PPMV
7)	n-Butane	4.180	1781233	17.727	PPMV
9)	n-Pentane	5.226	2315413	17.555	PPMV
10)	Hexane	6.442	3005302	16.104	PPMV

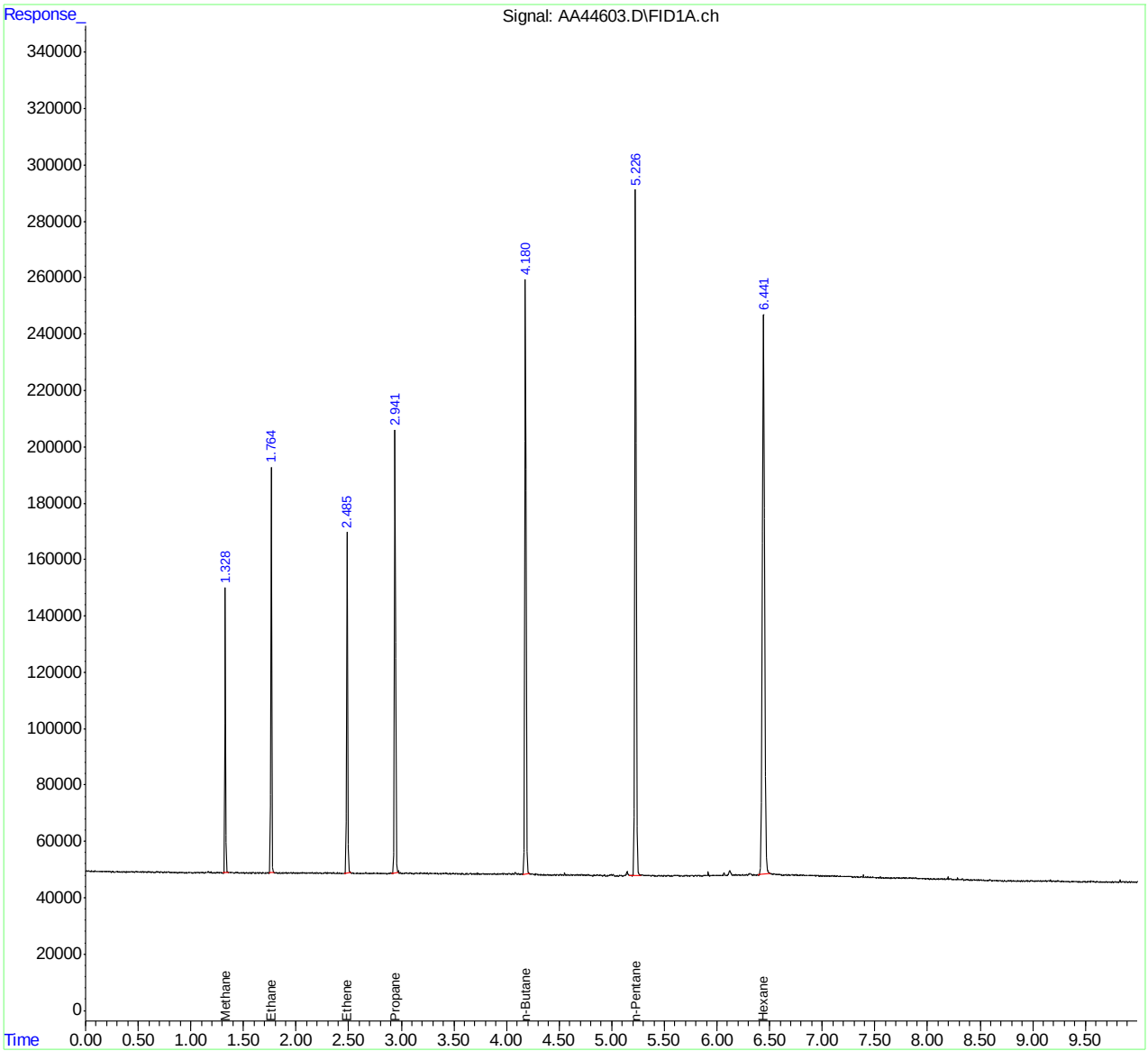
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44603.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 10:36 am
Operator : THOMASH
Sample : IC611-20
Misc : GC45339,GAA611,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44604.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:15 am
Operator : THOMASH
Sample : ICC611-100
Misc : GC45339,GAA611,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.327	2971911	94.280	PPMV
2)	Ethane	1.764	5690884	116.449	PPMV
3)	Ethene	2.484	5674706	117.164	PPMV
4)	Propane	2.940	8351927	116.992	PPMV
7)	n-Butane	4.180	11376855	113.226	PPMV
9)	n-Pentane	5.239	13552151	102.750	PPMV
10)	Hexane	6.463	14619275	78.337	PPMV

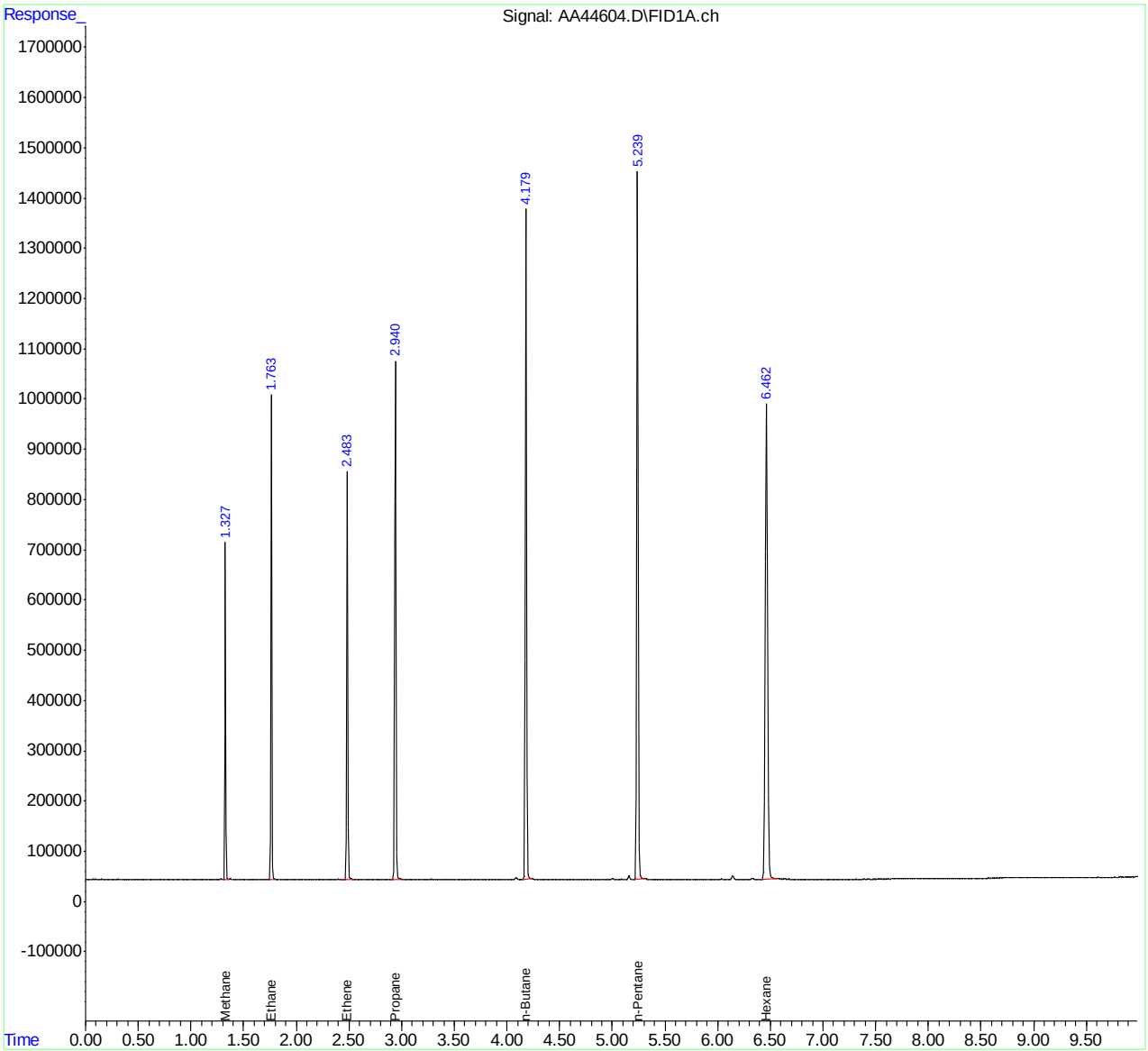
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44604.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:15 am
Operator : THOMASH
Sample : ICC611-100
Misc : GC45339,GAA611,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44605.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:29 am
Operator : THOMASH
Sample : IC611-200
Misc : GC45339,GAA611,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:04 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.324	6989667	221.738	PPMV
2)	Ethane	1.761	13356672	273.308	PPMV
3)	Ethene	2.481	13332372	275.271	PPMV
4)	Propane	2.938	19541599	273.734	PPMV
7)	n-Butane	4.176	26661382	265.341	PPMV
9)	n-Pentane	5.222	32551597	246.801	PPMV
10)	Hexane	6.437	37952228	203.366	PPMV

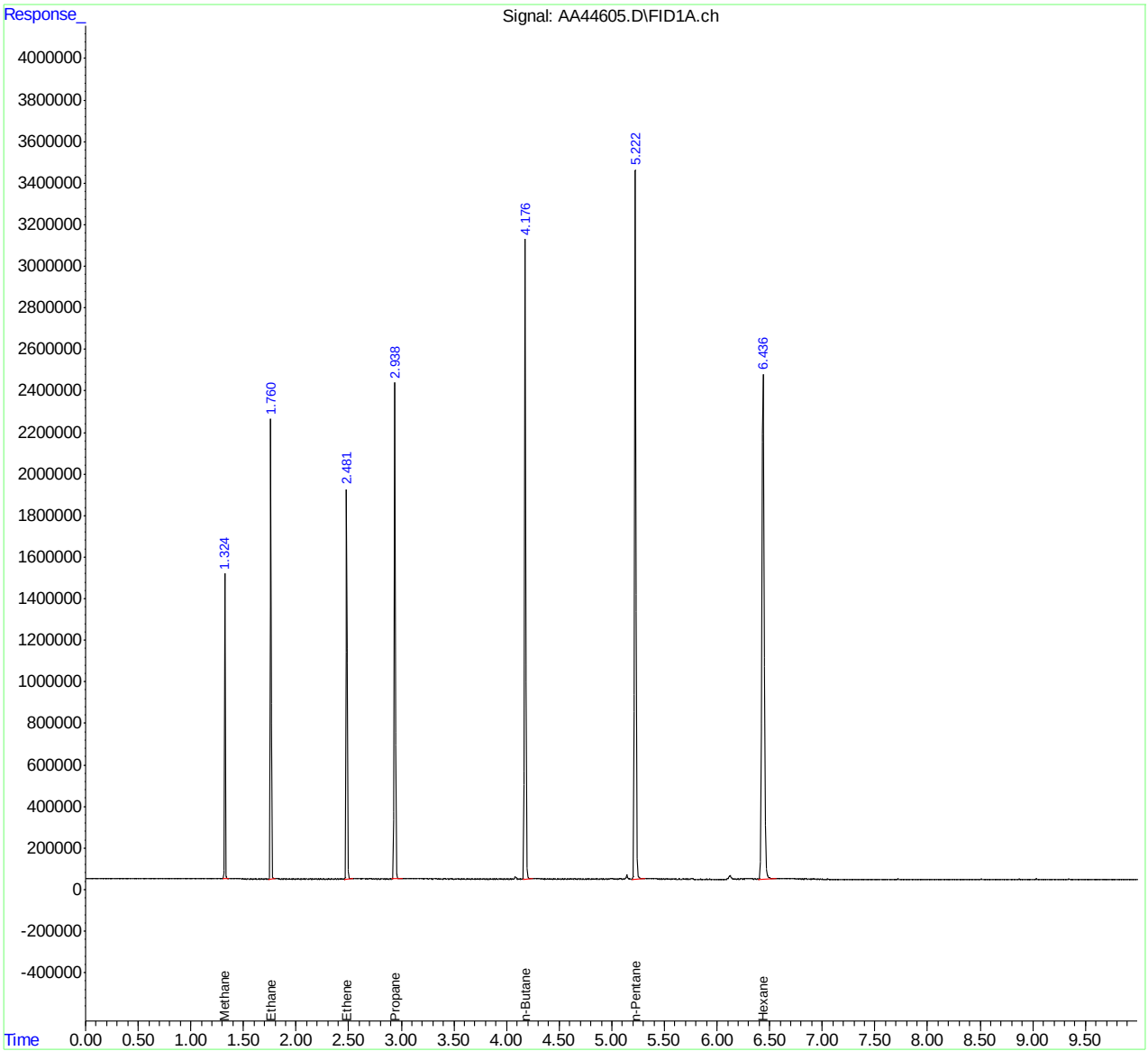
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44605.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:29 am
Operator : THOMASH
Sample : IC611-200
Misc : GC45339,GAA611,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:04 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44606.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:48 am
Operator : THOMASH
Sample : IC611-500
Misc : GC45339,GAA611,,,,,1
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.326	14163139	449.306	PPMV
2)	Ethane	1.762	27421684	561.110	PPMV
3)	Ethene	2.480	27365973	565.019	PPMV
4)	Propane	2.937	40157700	562.519	PPMV
7)	n-Butane	4.175	54894590	546.326	PPMV
9)	n-Pentane	5.222	66545758	504.540	PPMV
10)	Hexane	6.437	77080355	413.033	PPMV

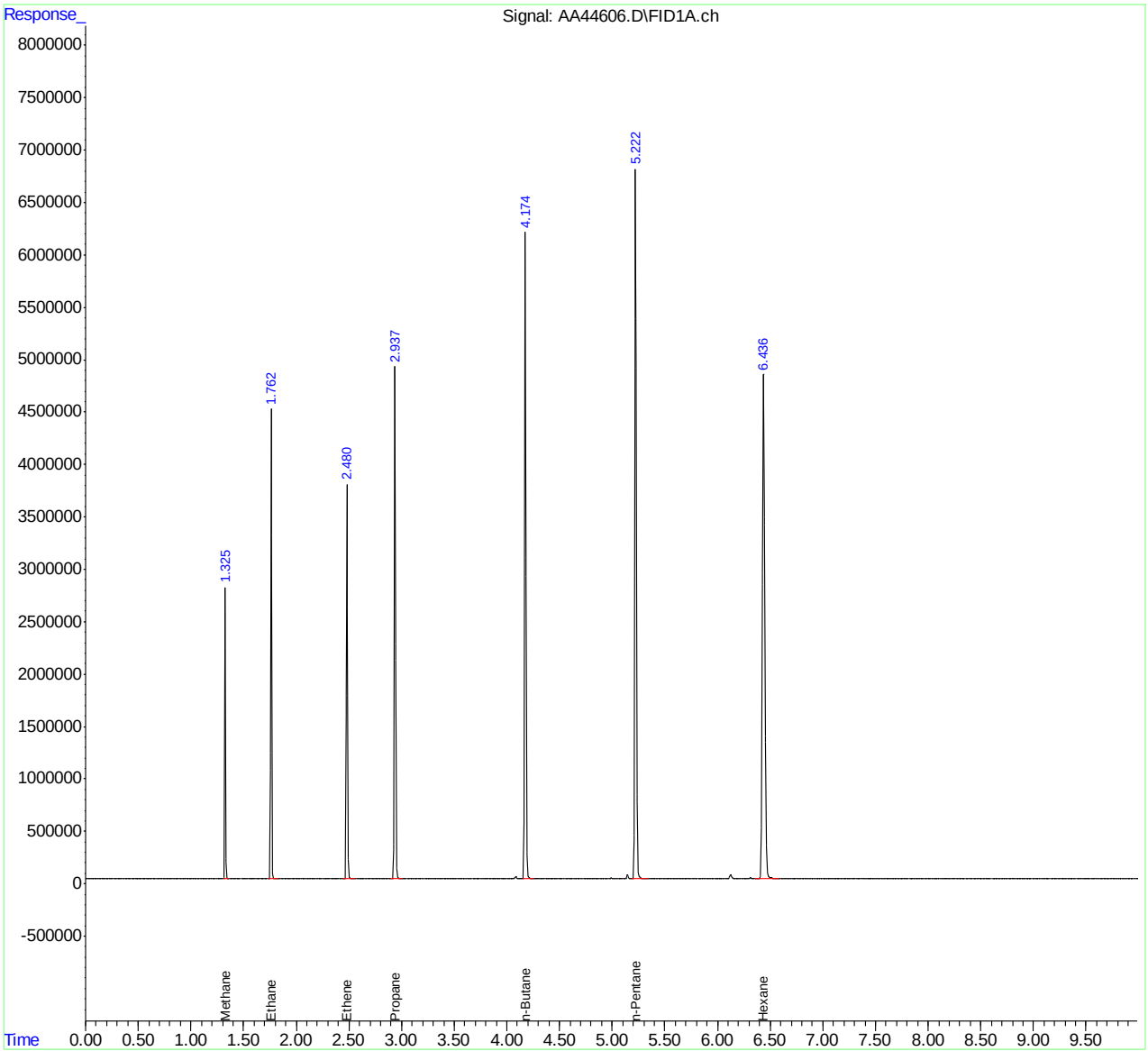
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44606.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:48 am
Operator : THOMASH
Sample : IC611-500
Misc : GC45339,GAA611,,,,,1
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44607.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:08 pm
Operator : THOMASH
Sample : IC611-1000
Misc : GC45339,GAA611,,,,,1
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.318	26887456	852.968	PPMV
2)	Ethane	1.756	51970289	1063.431	PPMV
3)	Ethene	2.474	51909519	1071.765	PPMV
4)	Propane	2.933	75960331	1064.033	PPMV
7)	n-Butane	4.171	103688279	1031.934	PPMV
9)	n-Pentane	5.221	125775805	953.614	PPMV
10)	Hexane	6.436	145357798	778.895	PPMV

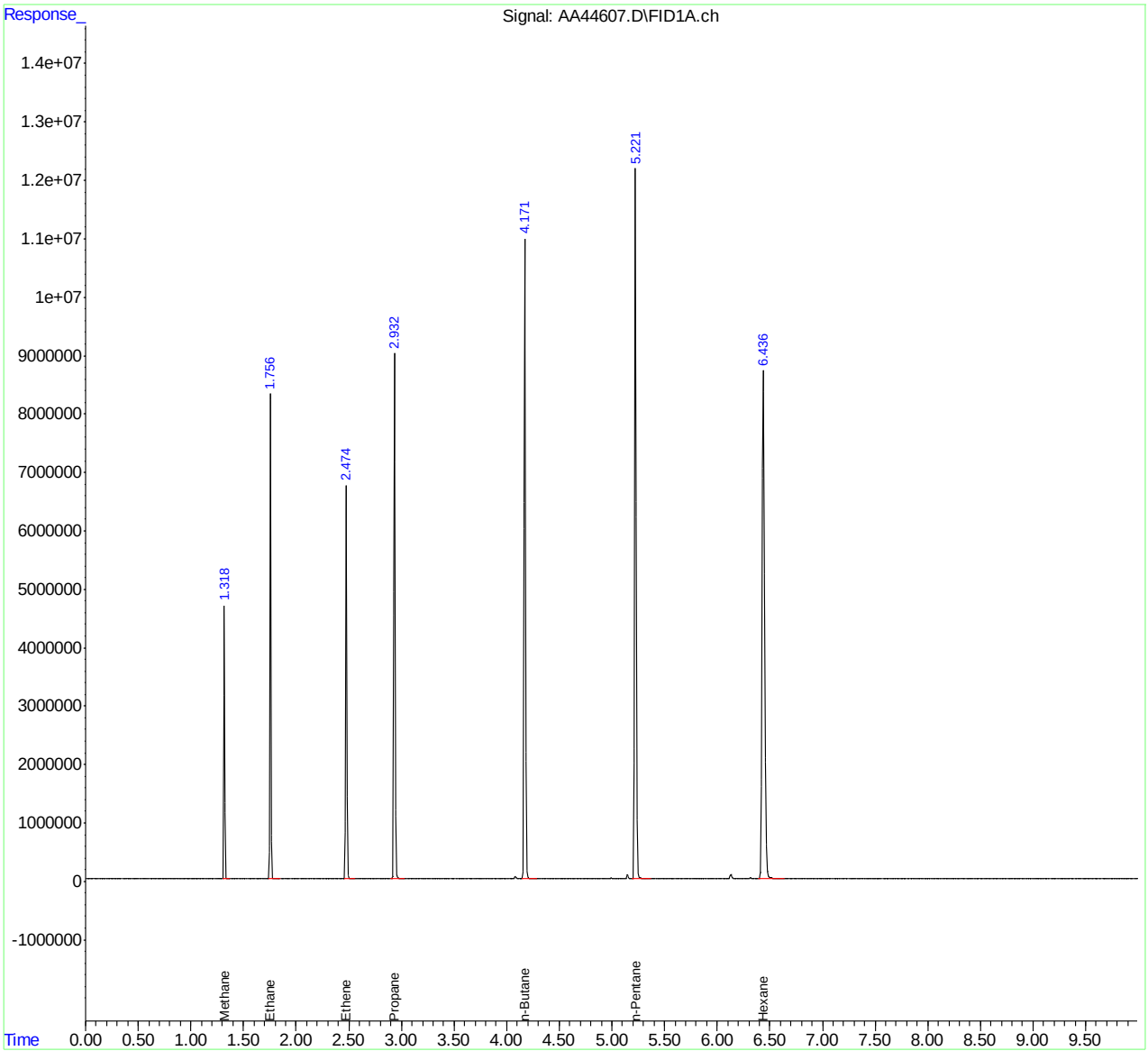
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44607.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:08 pm
Operator : THOMASH
Sample : IC611-1000
Misc : GC45339,GAA611,,,,,1
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu 02/04/15 18:03

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:41:38 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc Units
Target Compounds				
1)	Methane	1.331	12200	0.425 PPMV m
2)	Ethane	1.767	22014	0.463 PPMV
3)	Ethene	2.487	24941	0.527 PPMV m
4)	Propane	2.943	28076	0.401 PPMV
7)	n-Butane	4.181	36123	0.369 PPMV
9)	n-Pentane	5.230	48120	0.389 PPMV
10)	Hexane	6.449	90023	0.571 PPMV

(f)=RT Delta > 1/2 Window (m)=manual int.

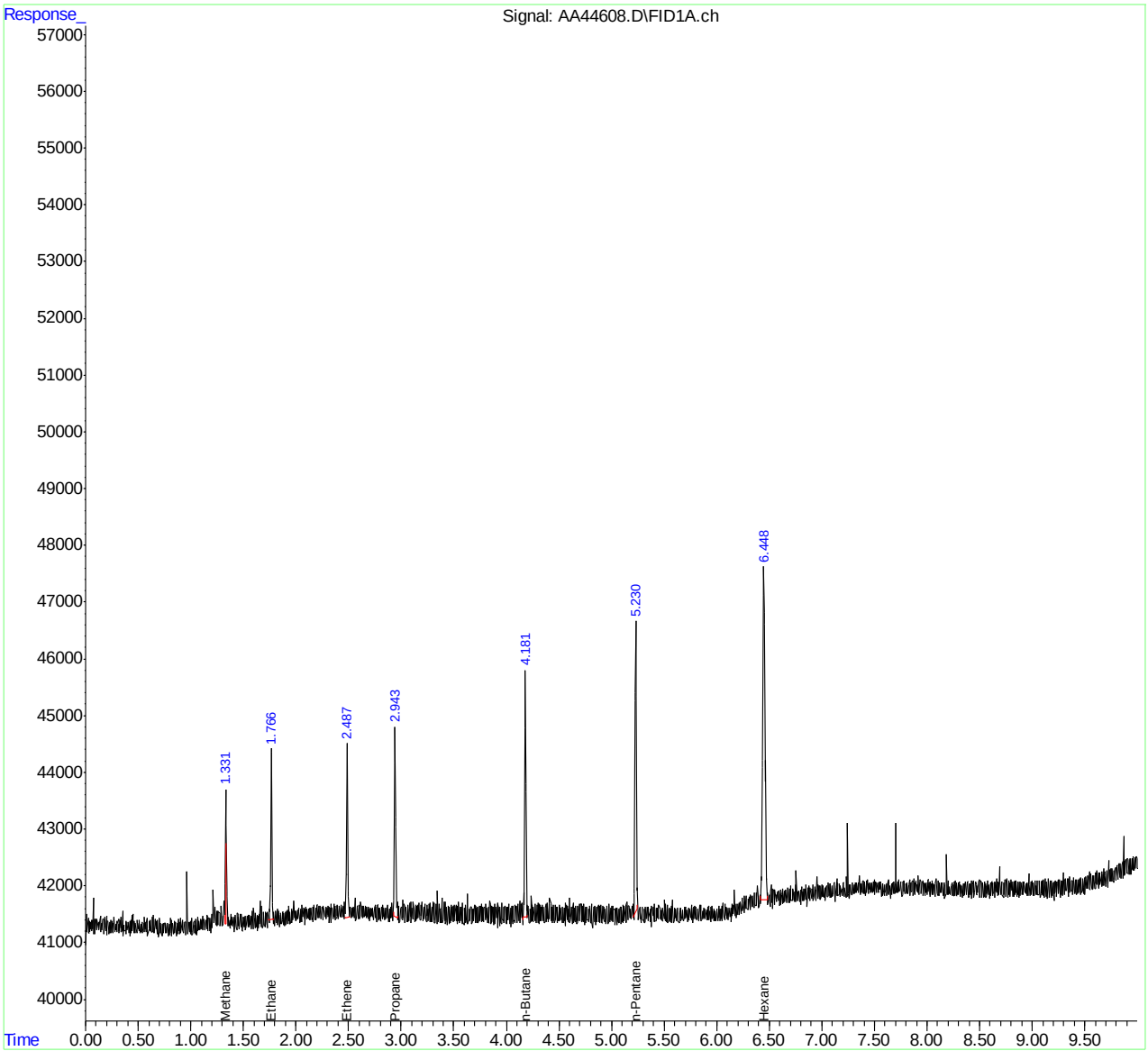
9.5.8
6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:41:38 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: GAA611-IC611
Lab FileID: AA44608.D
Injection Time: 02/04/15 12:25
Method: RSK-175
Analyst approved: 02/04/15 14:21 Thomas Hilbig
Supervisor approved: 02/04/15 18:03 Jessica Reitan-Chu

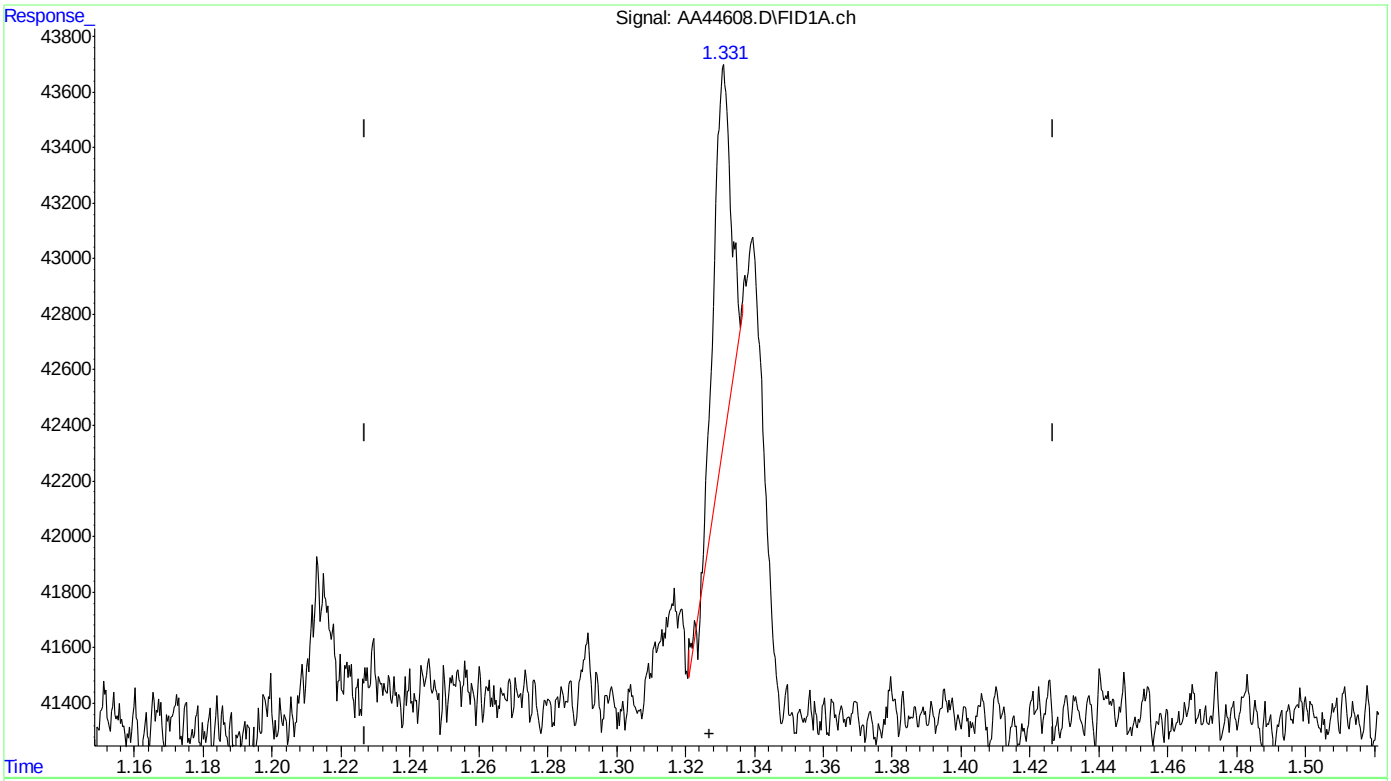
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.33	Poor instrument integration
Ethene	74-85-1	1	2.49	Poorly defined baseline

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:35:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.331min 0.155 PPMV

response 4459

(+) = Expected Retention Time

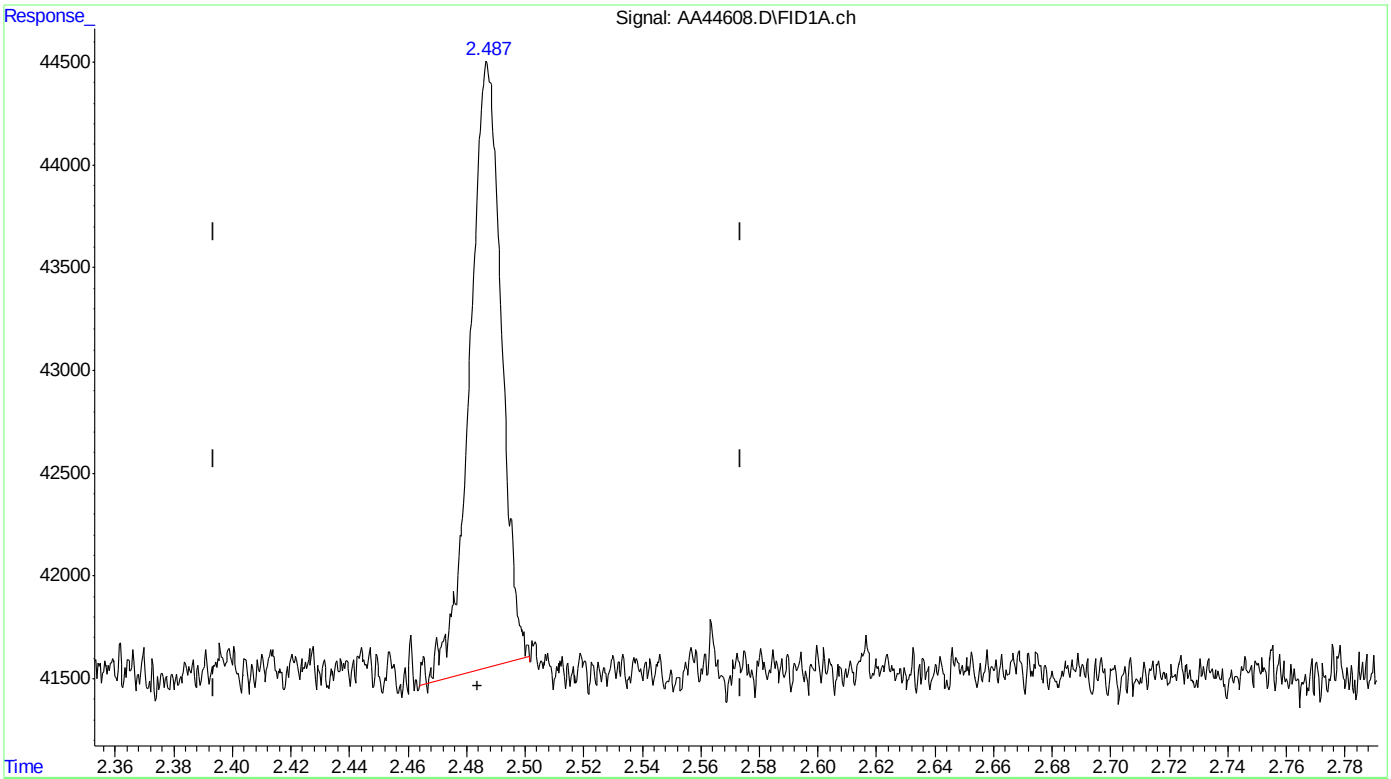
MAA611.M Wed Feb 04 12:37:49 2015 S

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:39:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(3) Ethene

2.487min 0.468 PPMV

response 22118

(+) = Expected Retention Time

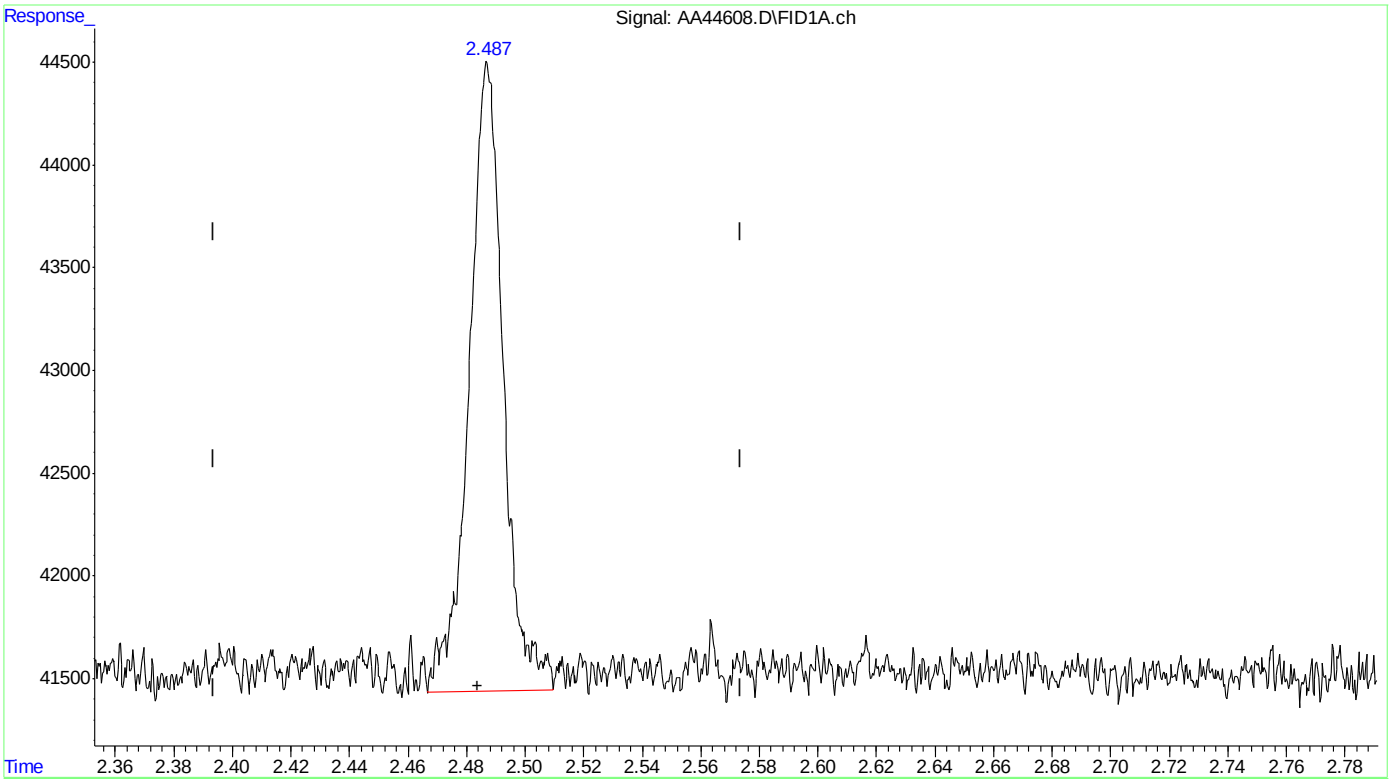
MAA611.M Wed Feb 04 12:41:32 2015 S

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:39:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(3) Ethene

2.487min 0.527 PPMV m

response 24941

(+) = Expected Retention Time

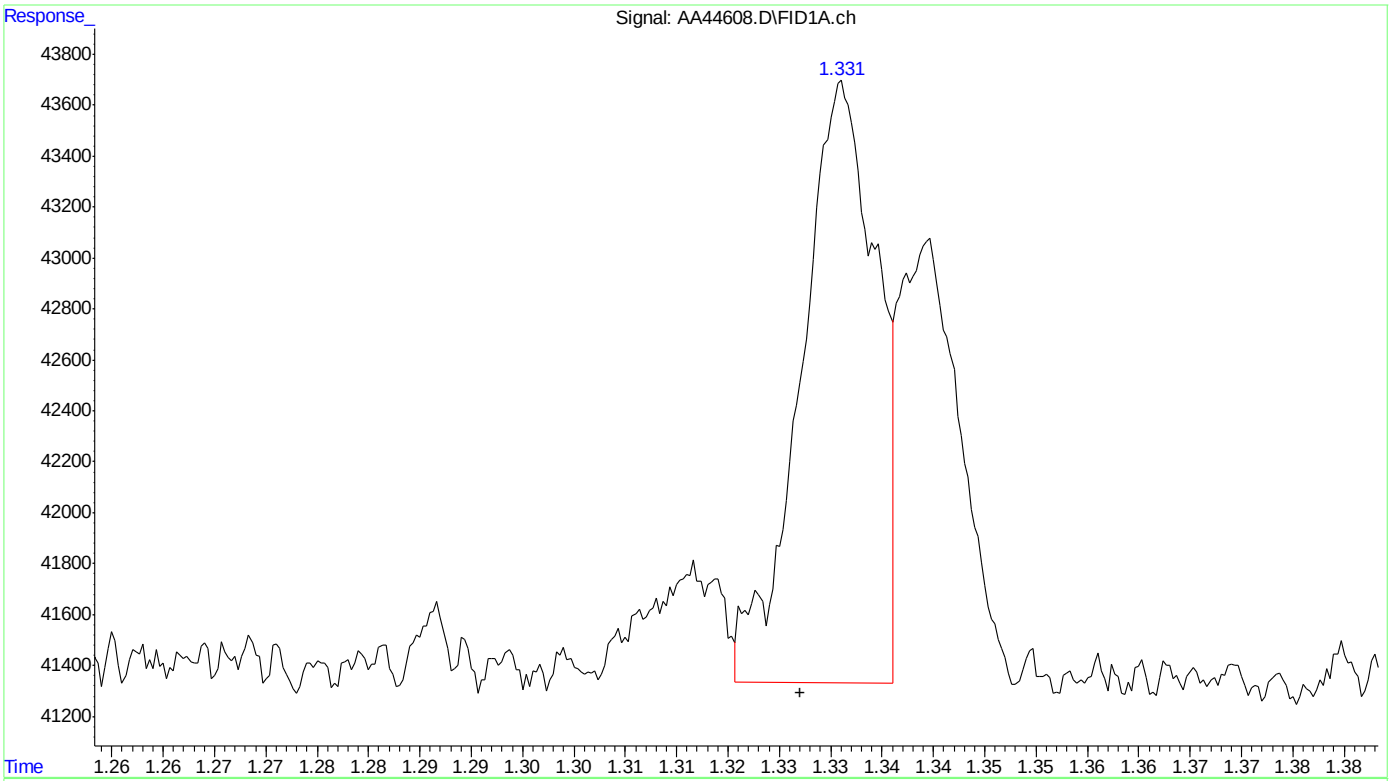
MAA611.M Wed Feb 04 12:41:42 2015 S

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:41:38 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.331min 0.425 PPMV m

response 12200

(+) = Expected Retention Time

MAA611.M Wed Feb 04 14:18:24 2015 S

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44609.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:59 pm
Operator : THOMASH
Sample : ICV611-100
Misc : GC45339,GAA611,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 14:15:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.321	2858301	109.048	PPMV
2)	Ethane	1.758	5476159	113.344	PPMV
3)	Ethene	2.482	5478342	112.876	PPMV
4)	Propane	2.939	8025951	114.075	PPMV
7)	n-Butane	4.179	10706252	110.363	PPMV
9)	n-Pentane	5.223	12071885	99.806	PPMV
10)	Hexane	6.437	13191061	87.568	PPMV

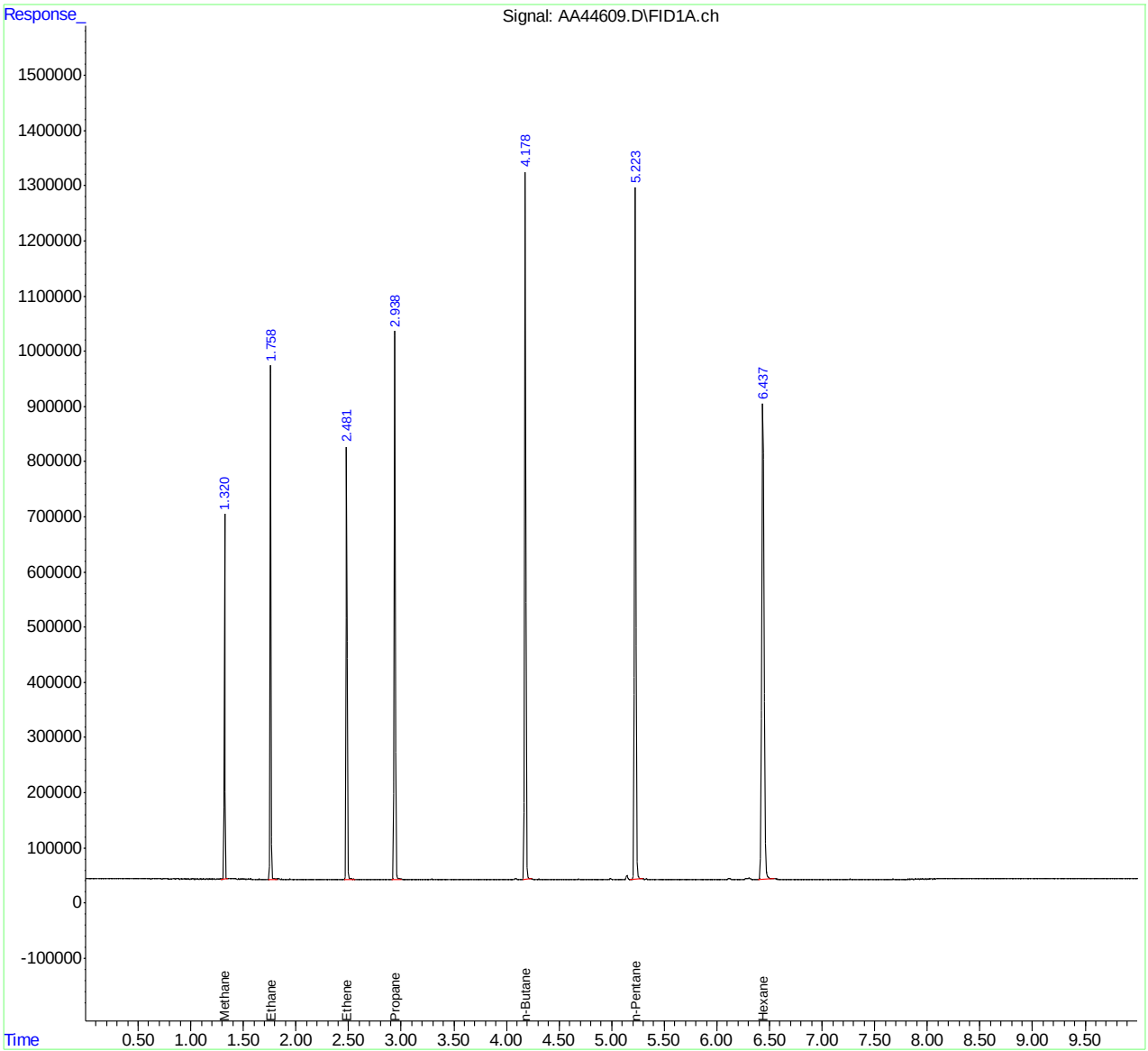
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44609.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:59 pm
Operator : THOMASH
Sample : ICV611-100
Misc : GC45339,GAA611,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 14:15:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/19/19 18:52

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72066.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 8:06 am
Operator : gabriep
Sample : cc611-100
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 08:24:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc Units
Target Compounds				
1)	Methane	1.346	2462417	93.944 PPMV m
2)	Ethane	1.772	4550475	94.184 PPMV
3)	Ethene	2.476	4557013	93.893 PPMV
4)	Propane	2.918	6696012	95.172 PPMV
5)	n-Butane	4.148	7966439	82.121 PPMV
6)	n-Pentane	5.213	8830466	73.007 PPMV
7)	Hexane	6.419	8960251	59.482 PPMV

(f)=RT Delta > 1/2 Window (m)=manual int.

9.5.10

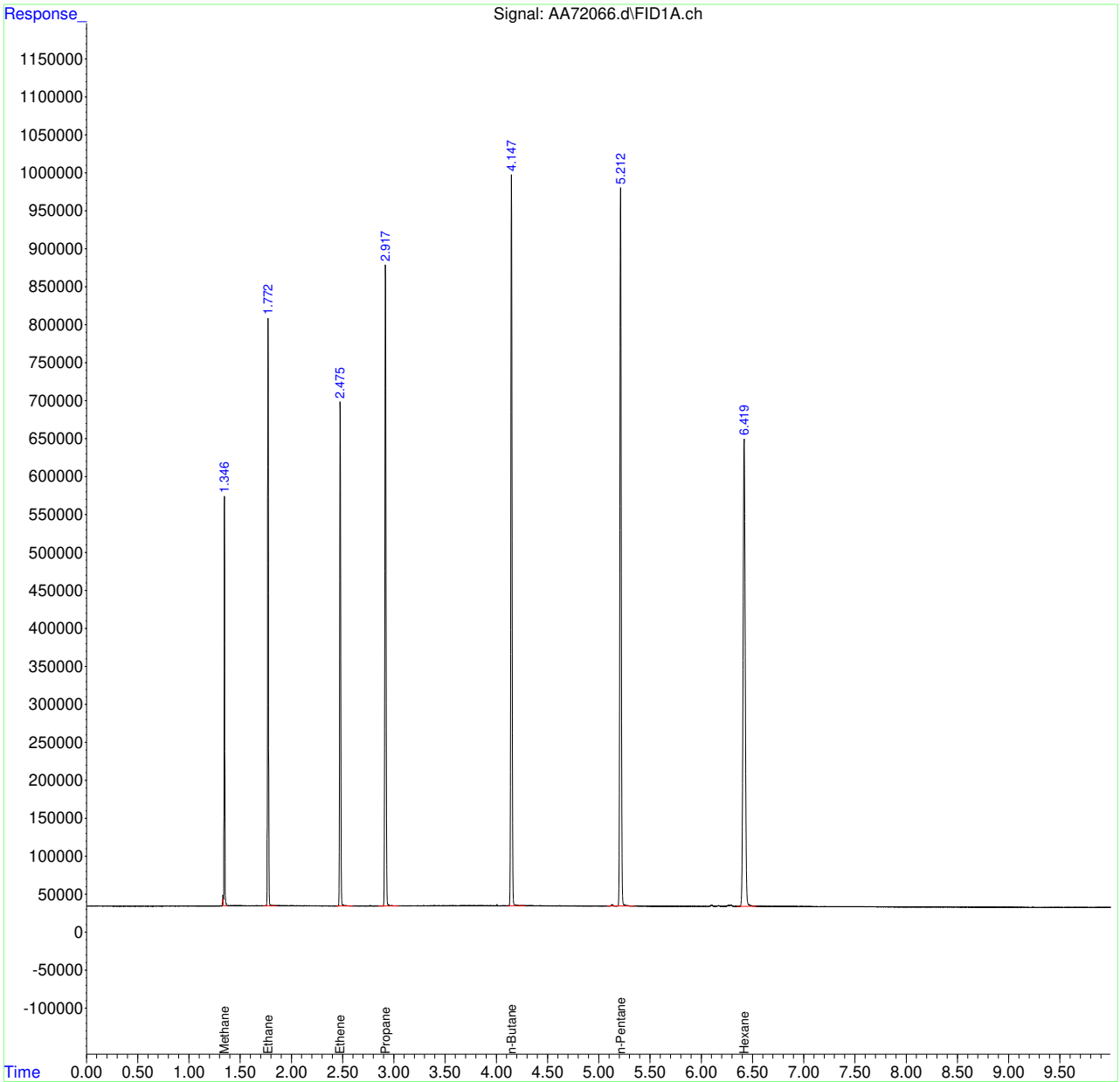
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72066.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 8:06 am
Operator : gabriep
Sample : cc611-100
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 08:24:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number:	GAA1690-CC611	**Method:**	RSK-175
Lab FileID:	AA72066.D	**Analyst approved:**	04/18/19 16:57 Gabriella Pericone
Injection Time:	04/18/19 08:06	**Supervisor approved:**	04/19/19 18:52 Kanya Veerawat

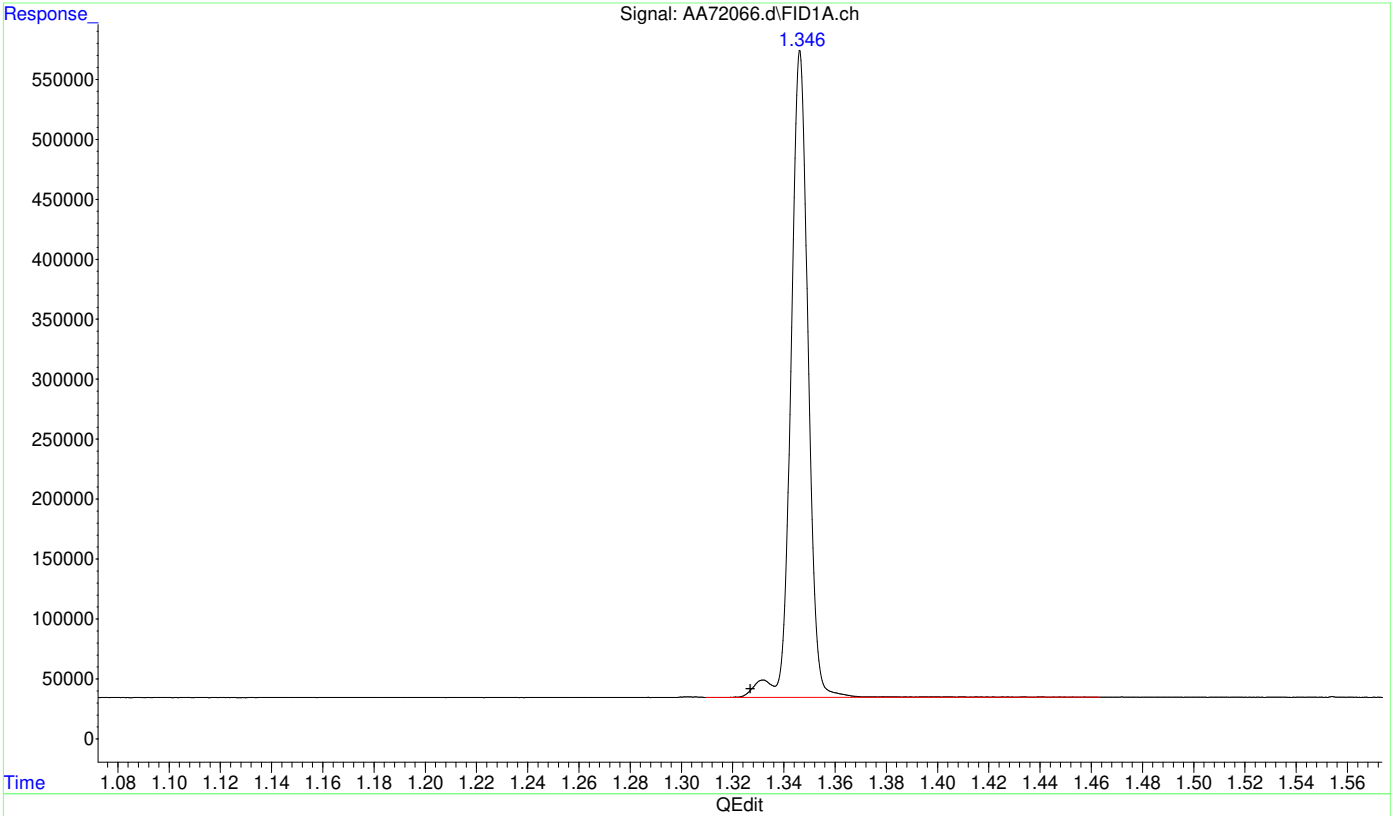
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.35	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72066.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 8:06 am
Operator : gabriep
Sample : cc611-100
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 08:16:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.347min 96.976 PPMV

response 2541891

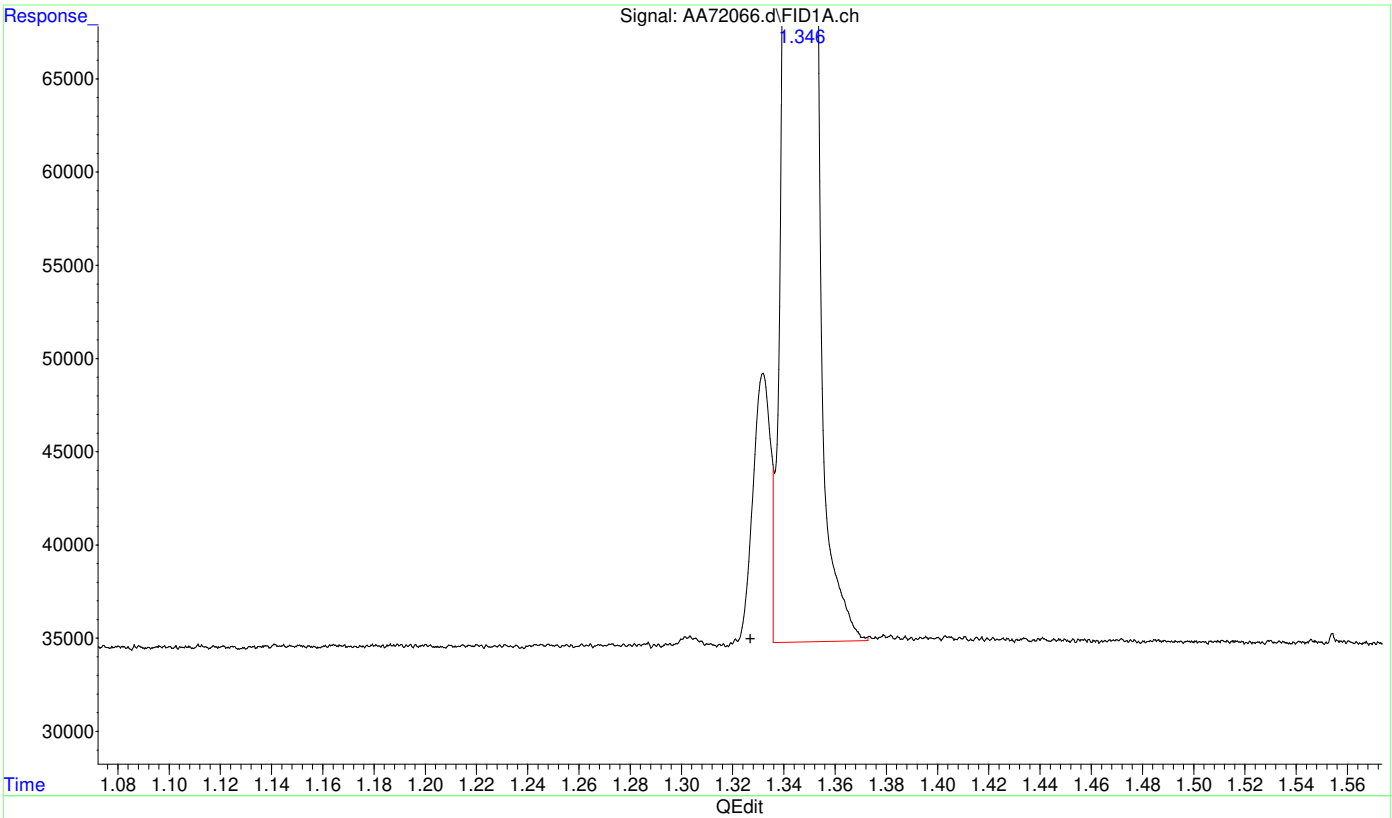
(+) = Expected Retention Time
maa611.m Thu Apr 18 08:24:10 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72066.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 8:06 am
Operator : gabriep
Sample : cc611-100
Misc : GC54212,GAA1690,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 08:16:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.346min 93.944 PPMV m

response 2462417

(+) = Expected Retention Time
maa611.m Thu Apr 18 08:24:25 2019 GCAA

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/19/19 18:52

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72081.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 12:27 pm
Operator : gabriep
Sample : CC611-100
Misc : GC54234,GAA1690,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 12:42:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc Units
Target Compounds				
1)	Methane	1.345	2352254	89.741 PPMV m
2)	Ethane	1.772	4454754	92.203 PPMV
3)	Ethene	2.478	4444019	91.565 PPMV
4)	Propane	2.919	6692958	95.129 PPMV
5)	n-Butane	4.148	8374343	86.325 PPMV
6)	n-Pentane	5.194	9893827	81.799 PPMV
7)	Hexane	6.386	10398157	69.028 PPMV

(f)=RT Delta > 1/2 Window (m)=manual int.

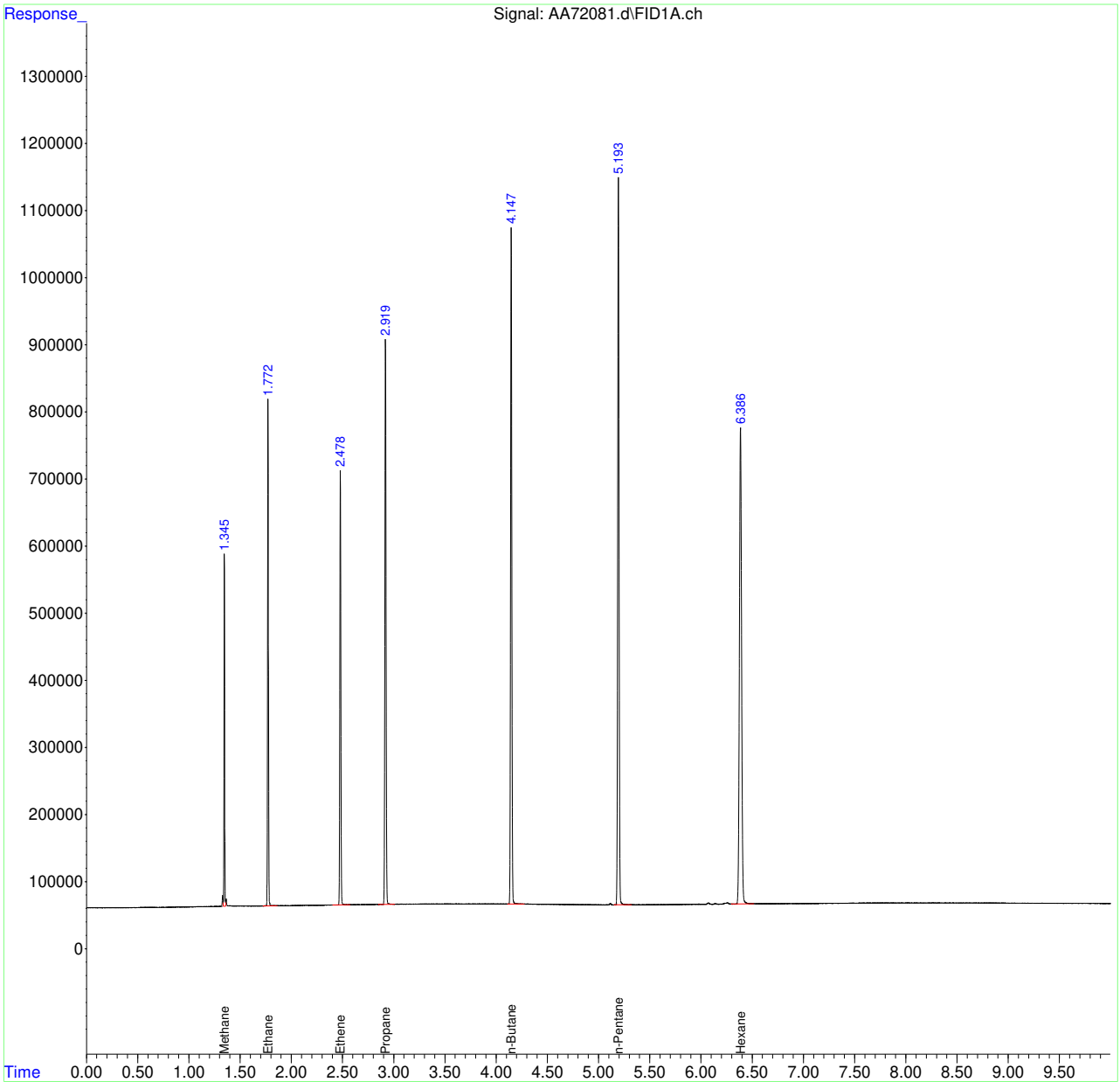
9.5.11
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72081.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 12:27 pm
Operator : gabriep
Sample : CC611-100
Misc : GC54234,GAA1690,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 12:42:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number:	GAA1690-CC611	**Method:**	RSK-175
Lab FileID:	AA72081.D	**Analyst approved:**	04/18/19 16:57 Gabriella Pericone
Injection Time:	04/18/19 12:27	**Supervisor approved:**	04/19/19 18:52 Kanya Veerawat

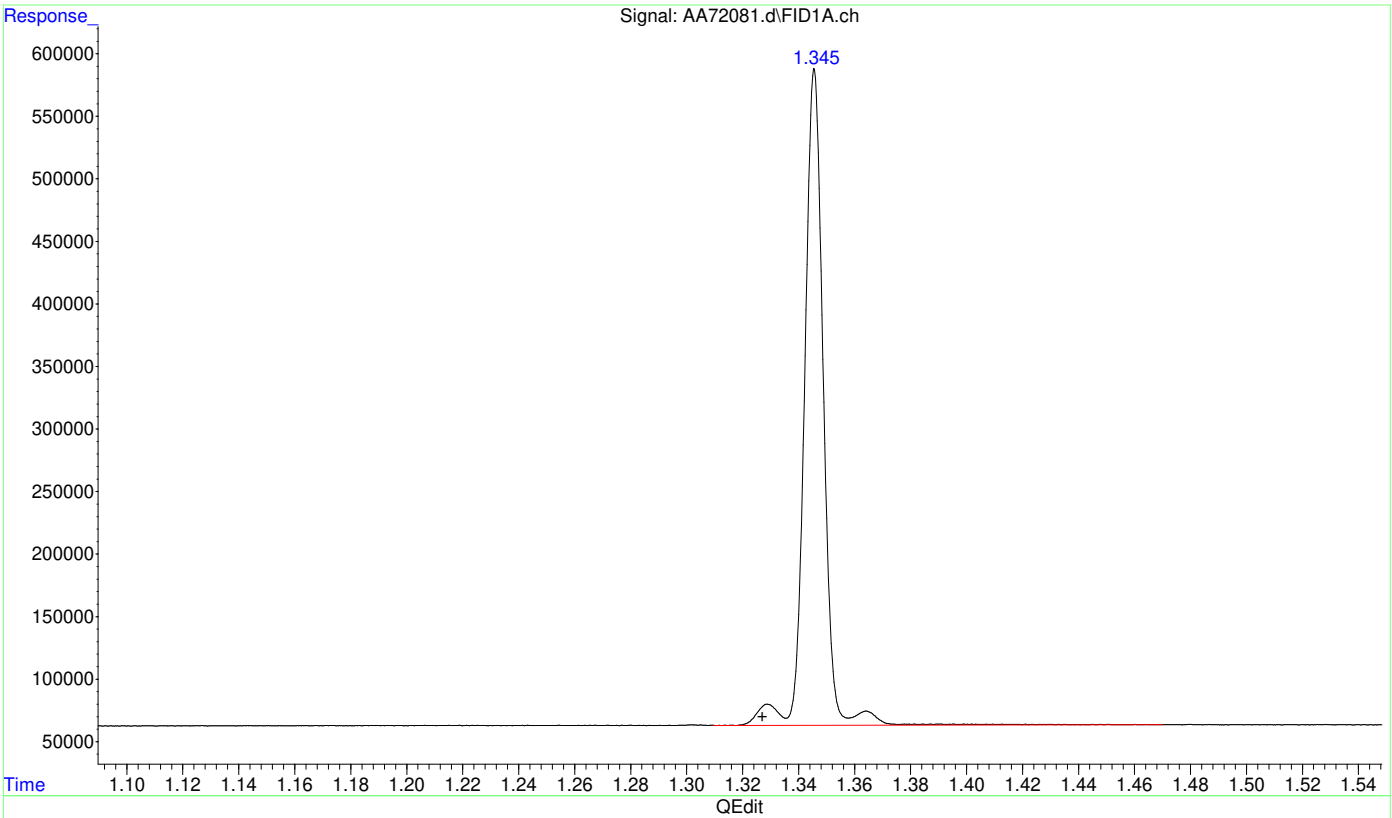
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.35	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72081.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 12:27 pm
Operator : gabriep
Sample : CC611-100
Misc : GC54234,GAA1690,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 12:37:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.346min 96.197 PPMV

response 2521455

(+) = Expected Retention Time

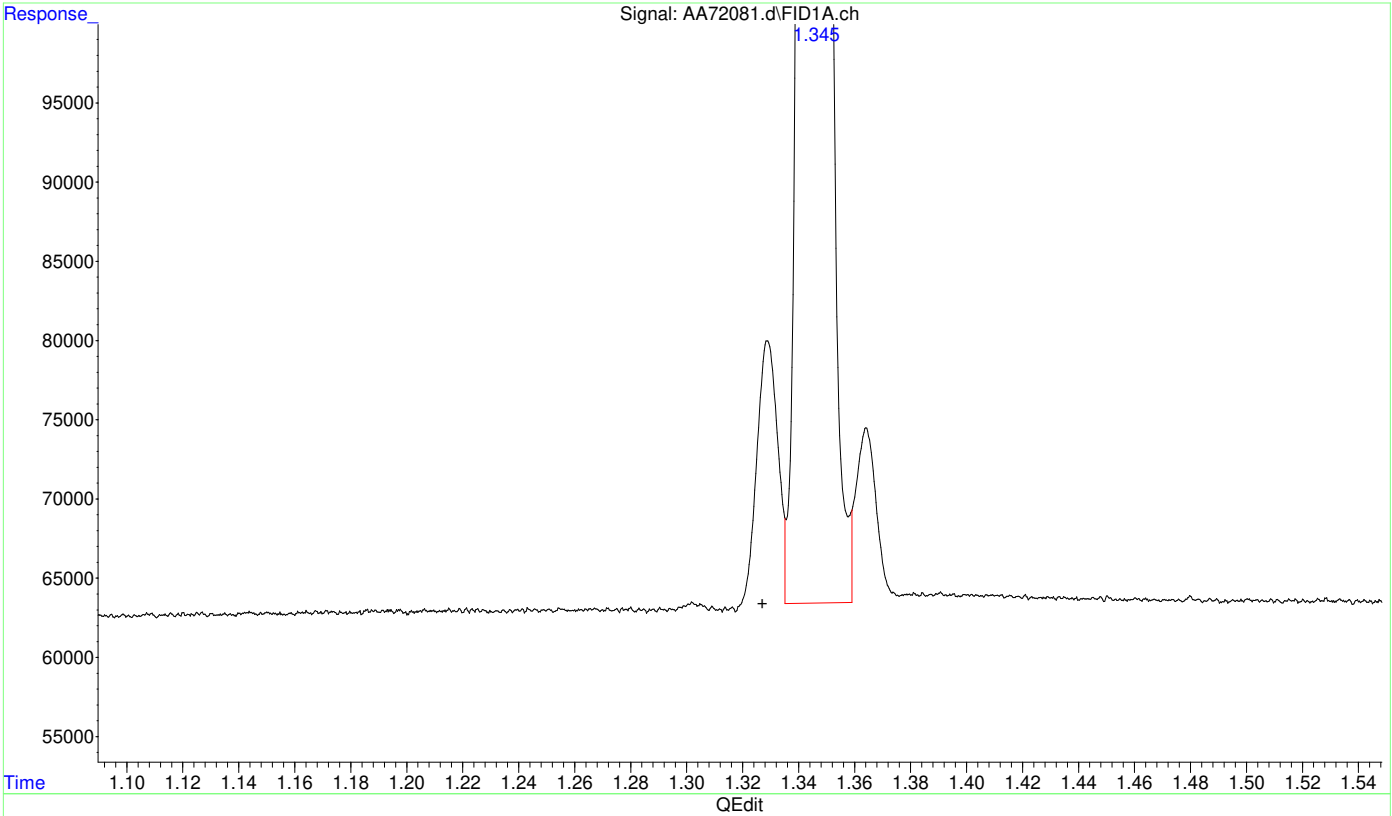
maa611.m Thu Apr 18 12:41:56 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72081.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 12:27 pm
Operator : gabriep
Sample : CC611-100
Misc : GC54234,GAA1690,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 12:37:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.345min 89.741 PPMV m

response 2352254

(+) = Expected Retention Time
maa611.m Thu Apr 18 12:42:18 2019 GCAA

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/19/19 18:52

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72096.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 5:02 pm
Operator : gabriep
Sample : CC611-100
Misc : GC54228,GAA1690,,,,,1
ALS Vial : 31 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 17:13:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.346	2676970	102.130	PPMV m
2)	Ethane	1.774	5040775	104.332	PPMV
3)	Ethene	2.480	5043551	103.917	PPMV
4)	Propane	2.921	7536805	107.123	PPMV
5)	n-Butane	4.148	9370185	96.591	PPMV
6)	n-Pentane	5.189	11195839	92.563	PPMV
7)	Hexane	6.378	11939440	79.260	PPMV

(f)=RT Delta > 1/2 Window (m)=manual int.

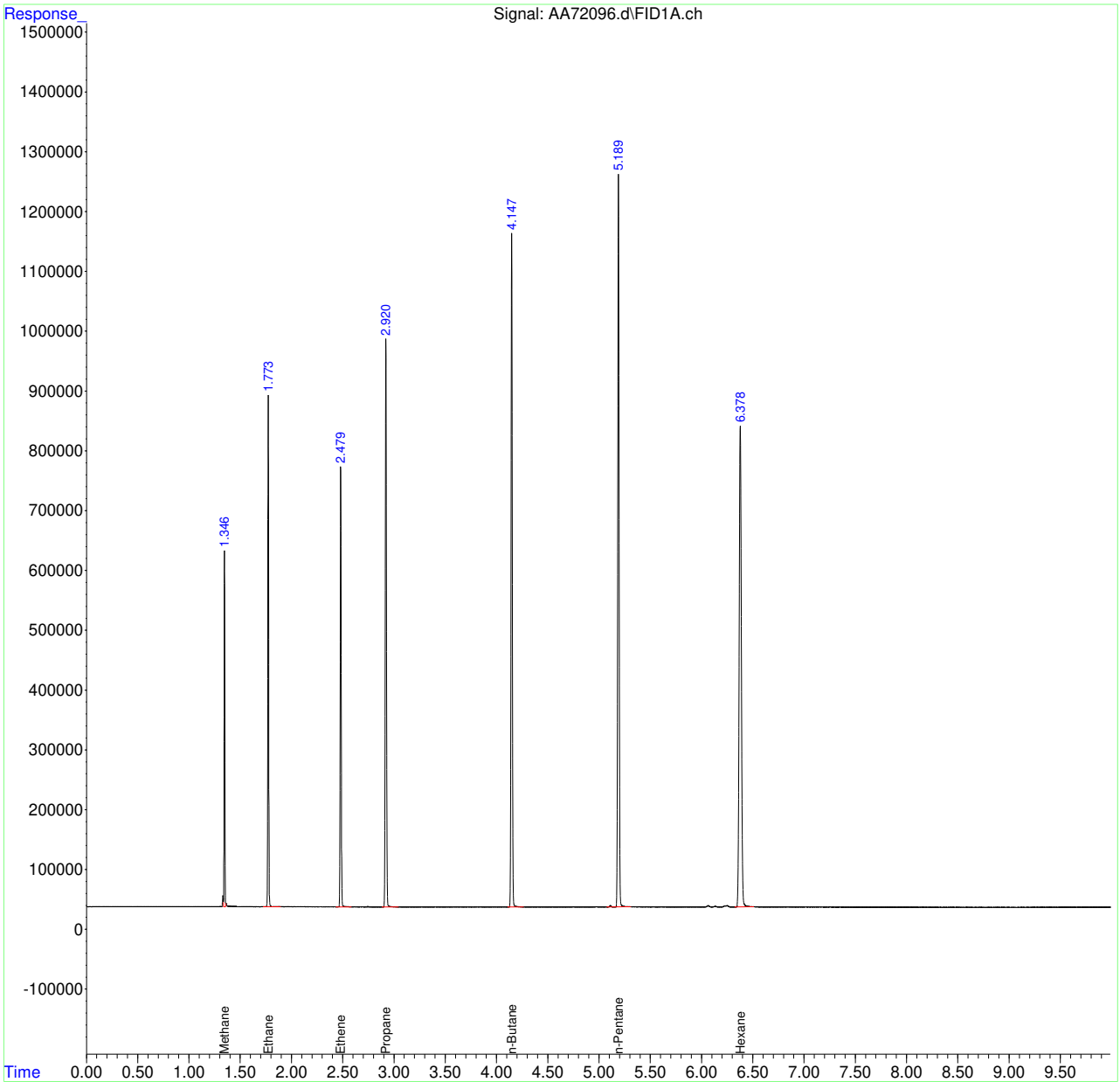
9.5.12
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72096.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 5:02 pm
Operator : gabriep
Sample : CC611-100
Misc : GC54228,GAA1690,,,,,1
ALS Vial : 31 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 17:13:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: GAA1690-CC611
Lab FileID: AA72096.D
Injection Time: 04/18/19 17:02
Method: RSK-175
Analyst approved: 04/18/19 17:15 Gabriella Pericone
Supervisor approved: 04/19/19 18:52 Kanya Veerawat

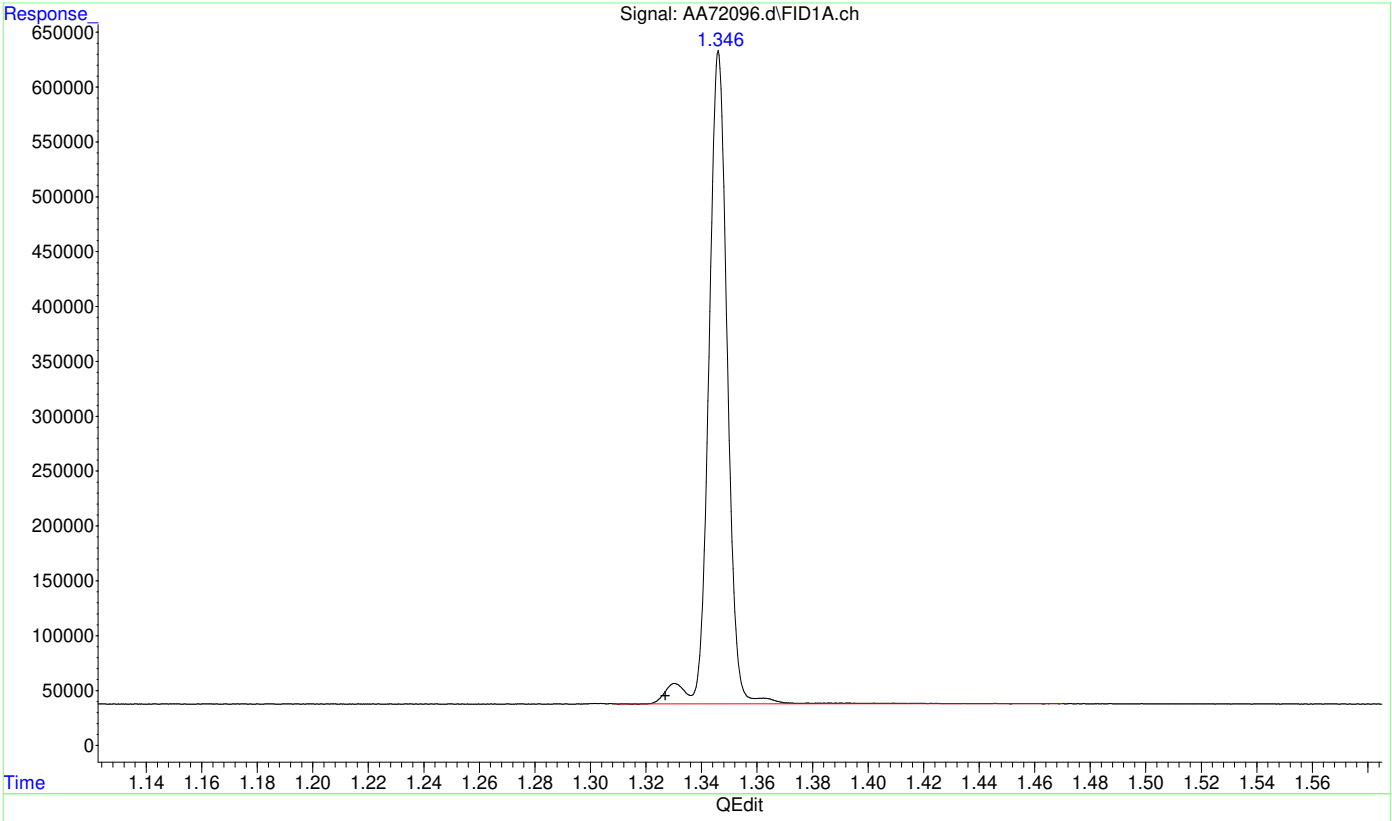
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.35	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72096.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 5:02 pm
Operator : gabriep
Sample : CC611-100
Misc : GC54228,GAA1690,,,,,1
ALS Vial : 31 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 17:12:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.347min 107.436 PPMV

response 2816063

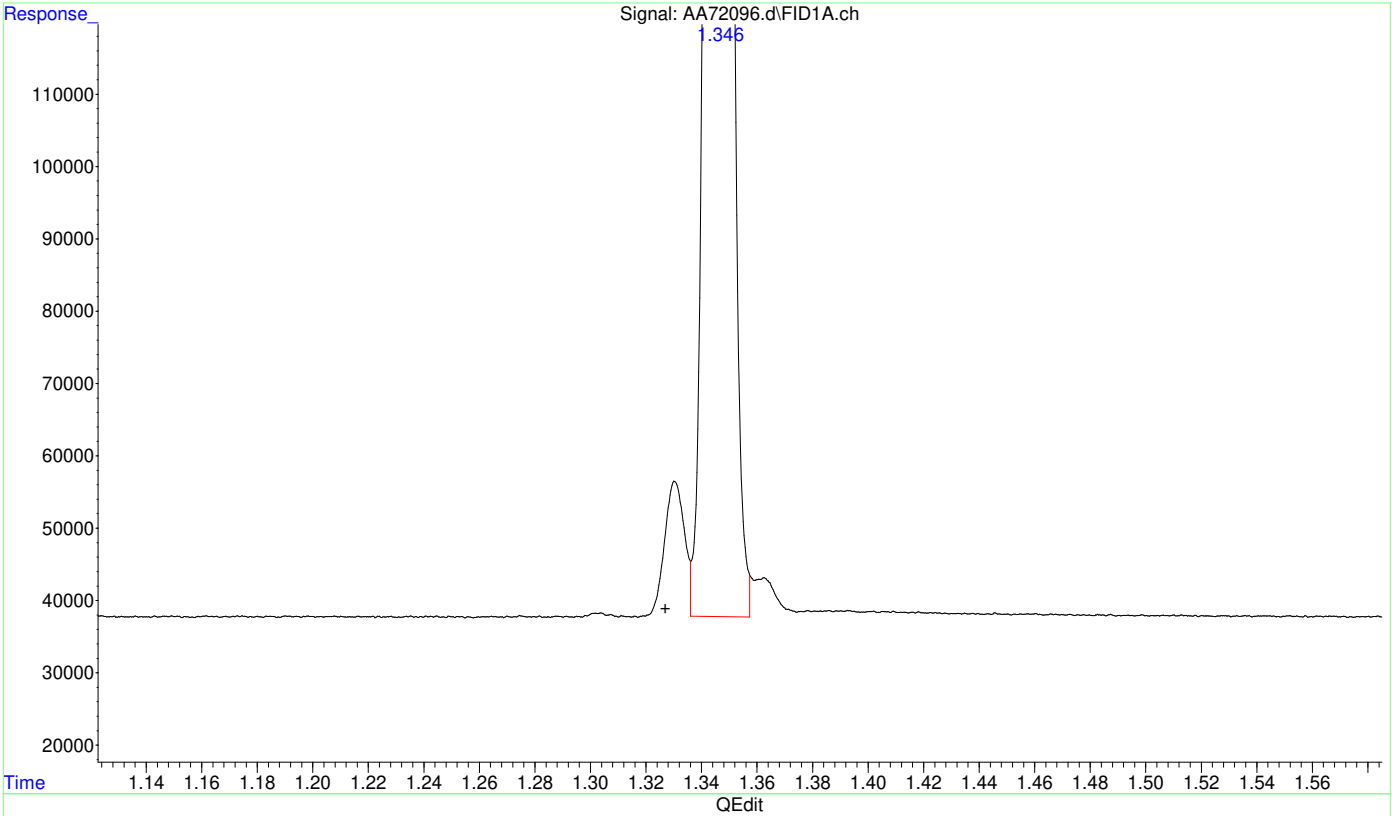
(+) = Expected Retention Time
maa611.m Thu Apr 18 17:13:36 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72096.d
Signal(s) : FID1A.ch
Acq On : 18 Apr 2019 5:02 pm
Operator : gabriep
Sample : CC611-100
Misc : GC54228,GAA1690,,,,,1
ALS Vial : 31 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 18 17:12:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.346min 102.130 PPMV m

response 2676970

(+) = Expected Retention Time
maa611.m Thu Apr 18 17:13:48 2019 GCAA

SGS

DISSOLVED GASES by GC/FID/TCD
INSTRUMENT LOG

Batch ID: GAA1690
Date: 4/18/19
Analyst :

Standard Data		STD Lot#A586420		LCS Lot#A587634		Lot#		Lot#	
Components	MW	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)
Methane	16	1000		1000					
Ethane	30	1000		1000					
Ethene	28	1000		1000					
Oxygen	32								
Nitrogen	28								
Hydrogen	2								
CO	28	1000		1000					
CO2	44	40026		4000					

ug/L = (ppmv) x (mw/24.45)

Columns: RTX Plumina/MxSil4
Method (Collect.) MAP611.M
Method (Quant) MAP611.M
Initial Cal: GAA611.M
Seq. file: AA190418.S
Thermometer 57339 exp 6/29/19
PHPAPER lot 2415186 exp 2/15/21

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of SGS SOP EQA044.

Supervisor Signature: Date: 4/23/19

R	Data File	Sample ID	Test	VIAL (CC)	Head-space (CC)	Final Sample (CC)	CC Inj.	Temp C	Dil Fact	Status (Data)	Comments	pH* <2
	AA72066	CC611-100					0.05	21		ok		
	AA72067	LCS		42	5	37	0.05	21		ok		
	AA72068	heliumblank					0.5	21		RR	CH4	
	AA72069	heliumblank					0.5	21		RR	CH4	
	AA72070	heliumblank					0.5	22		RR	CH4	
	AA72071	heliumblank					0.5	22		RR	CH4	
	AA72072	heliumblank					0.5	22		RR	CH4	
	AA72073	MB		42	5	37	0.5	22		ok	9168	
	AA72074	TD37383-14	GC56219 DC4155	44	5	39	0.5	22	1	ok		✓
	AA72075	TD37383-14DUP	✓	44	5	39	0.5	22	1	RR	does not match	✓
	AA72076	TD37383-14DUP	✓	44	5	39	0.5	22	1	NG	does not match	✓
	AA72077	TD37383-16	✓	43	5	38	0.5	22	1	ok		✓
	AA72078	JC86426-1	GC54234 DC4155	44	5	39	0.5	22	1	ok		✓
	AA72079	JC86426-1DUP	✓	44	5	39	0.5	22	1	NG	does not match	✓
	AA72080	CC611-100					0.05	22		RR	*	

*If pH> 2, comment on sample result.
All strikeouts must be initialed, dated, and reason applied if not transcription error.

DISSOLVED GASES by GC/FID/TCD
INSTRUMENT LOG

Batch ID: GAA1690
Date: 4/18/19
Analyst:

Columns: Rtx Alumina/Na2SO4
Method (Collect.) MAA611.M
Method (Quant) MAA611.M
Initial Cal: GAA MAA611.M
Seq. file: AA190418.S

Standard Data		STD Lot#		LCS Lot#		Lot#		Lot#	
Components	MW	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)
Methane	16	1000		1000					
Ethane	30	1000		1000					
Ethene	28	1000		1000					
Oxygen	32								
Nitrogen	28								
Hydrogen	2								
CO	28	1000		1000					
CO2	44	4000		4000					

ug/L = (ppmv) x (mw/24.45)

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of SGS SOP EQA044.

Supervisor Signature: Date: 4/23/19

R	Data File	Sample ID	Test	VIAL (CC)	Head-space (CC)	Final Sample (CC)	CC Inj.	Temp C	Dil Fact	Status (Data)	Comments	pH* <2
	AA72081	cc611-100					0.05	22		OK		
	AA72082	Jc86461-2	GC542341 DB624			38	0.5	22	1	OK/DL		✓
	AA72083	Jc86461-2 Dup	✓			38	0.5	22	1	NG	does not match	✓
	AA72084	Jc86461-2 Dup	✓			38	0.5	22	1	NG	does not Match	✓
	AA72085	Jc86461-2	✓			38	0.05	22	10	OK/DL		✓
	AA72086	Jc86461-2	✓			38	0.025	22	20	OK/DL		✓
	AA72087	Jc86461-2	✓			38	0.5	23	1	OK		✓
	AA72088	Jc86461-8	✓			38	0.5	23	1	OK		✓
	AA72089	LA53751-1	GC54223 Chig			37	0.5	23	1	OK/DL	chig	✓
	AA72090	LA53751-1 Dup	✓			37	0.5	23	1	RR	doesn't match	✓
	AA72091	LA53751-1 Dup	✓			37	0.5	23	1	RR	loose syringe reanalyzed	✓
	AA72092	LA53751-1 Dup	✓			37	0.5	23	1	OK		✓
	AA72093	LA53751-1	✓			37	0.25	23	20	OK		✓
	AA72094	LA53751-1	✓			37	0.125	23	40	OK	0.125 cc inj	✓
	AA72095	LA53751-2	✓			36	0.125	23	40	OK		✓

*If pH> 2, comment on sample result.
All strikeouts must be initialed, dated, and reason applied if not transcription error.

DISSOLVED GASES by GC/FID/TCD
INSTRUMENT LOG

Batch ID: GAA1690
Date: 4/18/19
Analyst :

Standard Data		Lot# AS9420	LCS Lot# AS7634	Lot#	Lot#
Components	MW	Conc. (ppmv) / Conc. (ug/l)	Conc. (ppmv) / Conc. (ug/l)	Conc. (ppmv) / Conc. (ug/l)	Conc. (ppmv) / Conc. (ug/l)
Methane	16	1000	1000		
Ethane	30	1000	1000		
Ethene	28	1000	1000		
Oxygen	32				
Nitrogen	28				
Hydrogen	2				
CO	28	1000	1000		
CO2	44	4000	4000		

Columns: RtxAlumina/Na2SO4
Method (Collect.) MAR611.M
Method (Quant) MAR611.M
Initial Cal: GAR611.M
Seq. file: AA190418.S

ug/L = (ppmv) x (mw/24.45)

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of SGS SOP EQA044.

Supervisor Signature: _____ Date: 4/23/19

R	Data File	Sample ID	Test	VIAL (CC)	Head-space (CC)	Final Sample (CC)	CC Inj.	Temp C	Dil Fact	Status (Data)	Comments	pH* <2
	AA22096	CCG11-100					1.05	23		OK		

4/18/19

*If pH> 2, comment on sample result.
All strikeouts must be initialed, dated, and reason applied if not transcription error.

ACCUTEST

DISSOLVED GASES by GC/FID/TCD
INSTRUMENT LOG

Batch ID: GAA611
Date: 2/4/15
Analyst : [signature]

Standard Data

Components	MW	Std Lot# A360855 Conc. (ppmv)	Conc. (ug/l)	LCS Lot# A361339 Conc. (ppmv)	Conc. (ug/l)	Lot# Conc. (ppmv)	Conc. (ug/l)	Lot# Conc. (ppmv)	Conc. (ug/l)
Methane	16	1000		1000					
Ethane	30	1		1					
Ethene	28								
Oxygen	32								
Nitrogen	28								
Hydrogen	2								
CO	28	1000		1000					
CO2	44	1		4000					

Columns: RT Alumina w/Na2SO4

Method (Collect.) MAA604.M MAA611.M

Method (Quant) MAA604.M MAA611.M

Initial Cal: GAA604 / GAA611

Seq. file: AA150204.S

pH paper lot #: 212713 exp. 5/1/16

thermometer ID: D-58 exp. 2/4/15

ug/L = (ppmv) x (mw/24.45)

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with criteria of Accutest SOP EQA044.

Supervisor Signature: YH **Date:** 2/6/15

R	Data File	Sample ID	Test	VIAL (CC)	Head-space (CC)	Final Sample (CC)	CC Inj.	Temp C	Dil Fact	Status (Data)	Comments	pH* <2
	AA44598	CC604-100					0.05	22		RR	MAA604.M	
	AA44599	CC604-100					0.05			NG	↓	
	AA44600	IC611-1.0					0.5mL			RR	MAA611.M	
	AA44601	IC611-2.0					1mL			OK		
	AA44602	IC611-10					5mL			OK		
	AA44603	IC611-20					0.01			OK		
	AA44604	IC611-100					0.05			OK		
	AA44605	IC611-200					0.1			OK		
	AA44606	IC611-500					0.25			OK		
	AA44607	IC611-1000					0.5			OK		
	AA44608	IC611-1.0					0.5mL			OK		
	AA44609	ICV611-100					0.05	↓		OK	↓	
											TH 2/4/15	

*If pH> 2, comment on sample result.

Form: OR008.02
Rev. Date: 10/21/02

97

9.6.2 9

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:44	MA46535-STD1	1		STDA
10:50	MA46535-STD2	1		STDB
10:55	ZZZZZZ	1		
11:00	ZZZZZZ	1		
11:05	MA46535-ICV1	1		
11:18	MA46535-ICB1	1		
11:25	MA46535-ICCV1	1		
11:37	MA46535-CCB1	1		
11:47	ZZZZZZ	1		
11:52	ZZZZZZ	1		
11:58	MA46535-CRI1	1		
12:03	MA46535-CRID1	1		See rerun
12:09	MA46535-ICSA1	1		
12:14	MA46535-ICSAB1	1		
12:19	MA46535-HSTD1	1		
12:24	MA46535-HSTD2	1		
12:30	ZZZZZZ	1		
12:35	ZZZZZZ	1		
12:41	MA46535-CCV1	1		
12:46	MA46535-CCB2	1		
12:51	MA46535-CRID2	1		
12:57	ZZZZZZ	1		
13:02	ZZZZZZ	1		
13:08	ZZZZZZ	1		
13:13	ZZZZZZ	1		
13:19	ZZZZZZ	1		
13:24	ZZZZZZ	1		
13:30	ZZZZZZ	1		
13:35	ZZZZZZ	1		
13:41	MA46535-CCV2	1		
13:46	MA46535-CCB3	1		
13:51	ZZZZZZ	1		
13:57	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:02	JC86015-21	1		(sample used for QC only; not part of login JC86426)
14:07	MP14171-SD1	5		
14:13	ZZZZZZ	1		
14:18	ZZZZZZ	1		
14:24	MP14241-S2	5		
14:29	ZZZZZZ	1		
14:35	ZZZZZZ	25		
14:40	MA46535-CCV3	1		
14:45	MA46535-CCB4	1		
14:51	ZZZZZZ	25		
14:56	ZZZZZZ	2		
15:01	ZZZZZZ	2		
15:07	ZZZZZZ	2		
15:12	ZZZZZZ	5		
15:17	ZZZZZZ	1		
15:23	ZZZZZZ	1		
15:28	ZZZZZZ	5		
15:33	MP14317-B1	1		
15:39	MA46535-CCV4	1		
15:44	MA46535-CCB5	1		
15:49	MP14317-MB1	1		
15:55	ZZZZZZ	1		
16:00	MP14317-S1	1		Need PS for sb
16:05	MP14317-S2	1		Need PS for sb
16:10	JC86331-5	1		(sample used for QC only; not part of login JC86426)
16:16	MP14317-SD1	5		
16:21	ZZZZZZ	1		
16:26	ZZZZZZ	1		
16:32	MA46535-CCV5	1		
16:37	MA46535-CCB6	1		
16:42	MA46535-ICSA2	1		
16:48	MA46535-ICSAB2	1		
16:53	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:58	ZZZZZZ	1		
17:04	ZZZZZZ	1		
17:09	ZZZZZZ	1		
17:14	ZZZZZZ	1		
17:20	ZZZZZZ	1		
17:25	ZZZZZZ	1		
17:30	MA46535-CCV6	1		
17:35	MA46535-CCB7	1		
17:41	ZZZZZZ	1		
17:46	ZZZZZZ	1		
17:52	ZZZZZZ	1		
17:57	ZZZZZZ	1		
18:03	ZZZZZZ	1		
18:08	ZZZZZZ	1		
18:14	ZZZZZZ	1		
18:19	ZZZZZZ	1		
18:25	ZZZZZZ	1		
18:30	ZZZZZZ	1		
18:36	ZZZZZZ	1		
18:41	ZZZZZZ	1		
18:47	MA46535-CCV7	1		(All reps within ranges)
18:52	MA46535-CCB8	1		
18:57	ZZZZZZ	1		
19:03	ZZZZZZ	1		
19:08	ZZZZZZ	1		
19:13	ZZZZZZ	1		
19:18	ZZZZZZ	1		
19:24	ZZZZZZ	1		
19:29	ZZZZZZ	1		
19:34	ZZZZZZ	1		
19:40	ZZZZZZ	1		
19:45	ZZZZZZ	1		
19:50	MA46535-CCV8	1		Be, Ca, Fe and Na out of ranges.

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:55	MA46535-CCB9	1		
20:01	MP14275-MB1	1		CCV high RSD
20:06	MP14275-B1	1		CCV high RSD
20:11	MP14275-S1	1		CCV high RSD. Need PS for Sb
20:16	MP14275-S2	1		CCV high RSD. Need PS for Sb
20:21	JC86246-10	1		(sample used for QC only; not part of login JC86426)
20:26	MP14275-SD1	5		CCV high RSD
20:32	ZZZZZZ	1		
20:37	ZZZZZZ	1		
20:42	ZZZZZZ	1		
20:47	ZZZZZZ	1		
20:53	MA46535-CCV9	1		
20:58	MA46535-CCB10	1		
21:03	ZZZZZZ	1		
21:08	ZZZZZZ	1		
21:14	ZZZZZZ	1		
21:19	ZZZZZZ	1		
21:24	ZZZZZZ	1		
21:30	ZZZZZZ	1		
21:35	ZZZZZZ	1		
21:40	ZZZZZZ	1		
21:45	ZZZZZZ	1		
21:51	ZZZZZZ	1		
21:56	MA46535-CCV10	1		
22:01	MA46535-CCB11	1		
22:07	ZZZZZZ	1		
22:12	ZZZZZZ	1		
22:17	ZZZZZZ	1		
22:22	ZZZZZZ	1		
22:27	ZZZZZZ	1		
22:33	MP14303-B1	1		
22:38	ZZZZZZ	1		
22:43	MP14303-S1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
22:48	MP14303-S2	1		
22:53	JC86497-1	1		(sample used for QC only; not part of login JC86426)
22:59	MA46535-CCV11	1		
23:04	MA46535-CCB12	1		
23:09	MP14303-SD1	5		
23:15	ZZZZZZ	1		
23:20	ZZZZZZ	1		
23:25	ZZZZZZ	1		
23:31	ZZZZZZ	1		
23:36	JC86426-1	1		
23:42	ZZZZZZ	1		
23:47	ZZZZZZ	1		
23:52	ZZZZZZ	1		
23:58	ZZZZZZ	1		
00:03	MA46535-CCV12	1		
00:08	MA46535-CCB13	1		
00:14	ZZZZZZ	1		
00:19	MP14319-B1	1		
00:24	MP14319-MB1	1		
00:30	MP14319-B2	1		
00:35	JC86180-1	1		(sample used for QC only; not part of login JC86426)
00:41	MP14319-SD1	5		
00:46	ZZZZZZ	1		
00:52	ZZZZZZ	1		
00:57	ZZZZZZ	1		
01:03	ZZZZZZ	1		
01:08	MA46535-CCV13	1		
01:13	MA46535-CCB14	1		
01:19	ZZZZZZ	1		
01:24	ZZZZZZ	1		
01:29	ZZZZZZ	1		
01:35	ZZZZZZ	1		
01:40	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
01:46	ZZZZZZ	1		
01:51	ZZZZZZ	1		
01:57	ZZZZZZ	1		
02:02	ZZZZZZ	1		
02:07	ZZZZZZ	1		
02:13	MA46535-CCV14	1		
02:18	MA46535-CCB15	1		
02:23	ZZZZZZ	1		
02:29	ZZZZZZ	1		
02:35	ZZZZZZ	1		
02:40	ZZZZZZ	1		
02:46	ZZZZZZ	1		
02:51	MP14276-B1	1		
02:56	MP14276-MB1	1		Saturation, see rerun
03:02	MP14276-S1	1		
03:07	MP14276-S2	1		
03:12	JC86246-7	1		(sample used for QC only; not part of login JC86426)
03:17	MA46535-CCV15	1		
03:22	MA46535-CCB16	1		
03:27	MP14276-SD1	5		
03:33	ZZZZZZ	1		
03:38	ZZZZZZ	1		
03:43	ZZZZZZ	1		
03:48	ZZZZZZ	1		
03:54	ZZZZZZ	1		
03:59	ZZZZZZ	1		
04:04	ZZZZZZ	1		
04:09	ZZZZZZ	1		
04:15	ZZZZZZ	1		
04:20	MA46535-CCV16	1		
04:25	MA46535-CCB17	1		
04:30	ZZZZZZ	1		
04:36	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
04:41	ZZZZZZ	1		
04:46	ZZZZZZ	1		
04:51	ZZZZZZ	1		
04:57	ZZZZZZ	1		
05:02	ZZZZZZ	1		
05:07	ZZZZZZ	1		
05:12	ZZZZZZ	1		
05:18	ZZZZZZ	1		
05:23	MA46535-CCV17	1		
05:28	MA46535-CCB18	1		
05:33	MP14277-MB1	1		
05:39	MP14277-B1	1		
05:44	MP14277-S1	1		
05:49	MP14277-S2	1		
05:54	JC86246-35	1		(sample used for QC only; not part of login JC86426)
05:59	MP14277-SD1	5		
06:05	ZZZZZZ	1		
06:10	ZZZZZZ	1		
06:15	ZZZZZZ	1		
06:20	ZZZZZZ	1		
06:26	MA46535-CCV18	1		
06:31	MA46535-CCB19	1		
06:36	ZZZZZZ	1		
06:41	ZZZZZZ	1		
06:47	ZZZZZZ	1		
06:52	ZZZZZZ	1		
06:57	ZZZZZZ	1		
07:02	ZZZZZZ	1		
07:08	ZZZZZZ	1		
07:13	ZZZZZZ	1		
07:18	ZZZZZZ	1		
07:23	MA46535-CCV19	1		
07:29	MA46535-CCB20	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:34	ZZZZZZ	1		
07:39	ZZZZZZ	1		
07:45	ZZZZZZ	1		
07:50	ZZZZZZ	1		
07:55	ZZZZZZ	1		
08:00	ZZZZZZ	1		
08:08	MP14303-MB1	1		
---------->	Last reportable sample/prep for job JC86426			
08:13	MP14276-MB1	1		
08:19	MA46535-CCV20	1		
08:24	MA46535-CCB21	1		
---------->	Last reportable CCB for job JC86426			
08:30	ZZZZZZ	1		
08:35	ZZZZZZ	1		
08:41	ZZZZZZ	1		
08:46	ZZZZZZ	1		
08:57	MP14246-MB2	1		
09:02	MP14246-B2	1		
09:07	ZZZZZZ	1		
09:13	MA46535-CCV21	1		
09:18	MA46535-CCB22	1		
09:23	ZZZZZZ	1		
09:29	ZZZZZZ	1		
09:34	ZZZZZZ	1		

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn
10:55	ZZZZZZ	1	
11:00	ZZZZZZ	1	
11:05	MA46535-ICV1	1	X
11:18	MA46535-ICB1	1	X
11:25	MA46535-ICCV1	1	X
11:37	MA46535-CCB1	1	X
11:47	ZZZZZZ	1	
11:52	ZZZZZZ	1	
11:58	MA46535-CRI1	1	X
12:03	MA46535-CRID1	1	See rerun
12:09	MA46535-ICSA1	1	X
12:14	MA46535-ICSAB1	1	X
12:19	MA46535-HSTD1	1	X
12:24	MA46535-HSTD2	1	
12:30	ZZZZZZ	1	
12:35	ZZZZZZ	1	
12:41	MA46535-CCV1	1	X
12:46	MA46535-CCB2	1	X
12:51	MA46535-CRID2	1	X
12:57	ZZZZZZ	1	
13:02	ZZZZZZ	1	
13:08	ZZZZZZ	1	
13:13	ZZZZZZ	1	
13:19	ZZZZZZ	1	
13:24	ZZZZZZ	1	
13:30	ZZZZZZ	1	
13:35	ZZZZZZ	1	
13:41	MA46535-CCV2	1	X
13:46	MA46535-CCB3	1	X
13:51	ZZZZZZ	1	
13:57	ZZZZZZ	1	
14:02	JC86015-21	1	(a)
14:07	MP14171-SD1	5	
		Element:	Mn

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
14:13	ZZZZZZ	1		
14:18	ZZZZZZ	1		
14:24	MP14241-S2	5		
14:29	ZZZZZZ	1		
14:35	ZZZZZZ	25		
14:40	MA46535-CCV3	1	X	
14:45	MA46535-CCB4	1	X	
14:51	ZZZZZZ	25		
14:56	ZZZZZZ	2		
15:01	ZZZZZZ	2		
15:07	ZZZZZZ	2		
15:12	ZZZZZZ	5		
15:17	ZZZZZZ	1		
15:23	ZZZZZZ	1		
15:28	ZZZZZZ	5		
15:33	MP14317-B1	1	X	
15:39	MA46535-CCV4	1	X	
15:44	MA46535-CCB5	1	X	
15:49	MP14317-MB1	1	X	
15:55	ZZZZZZ	1		
16:00	MP14317-S1	1	X	
16:05	MP14317-S2	1	X	
16:10	JC86331-5	1	X	(a)
16:16	MP14317-SD1	5	X	
16:21	ZZZZZZ	1		
16:26	ZZZZZZ	1		
16:32	MA46535-CCV5	1	X	
16:37	MA46535-CCB6	1	X	
16:42	MA46535-ICSA2	1	X	
16:48	MA46535-ICSAB2	1	X	
16:53	ZZZZZZ	1		
16:58	ZZZZZZ	1		
17:04	ZZZZZZ	1		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn
17:09	ZZZZZZ	1	
17:14	ZZZZZZ	1	
17:20	ZZZZZZ	1	
17:25	ZZZZZZ	1	
17:30	MA46535-CCV6	1	X
17:35	MA46535-CCB7	1	X
17:41	ZZZZZZ	1	
17:46	ZZZZZZ	1	
17:52	ZZZZZZ	1	
17:57	ZZZZZZ	1	
18:03	ZZZZZZ	1	
18:08	ZZZZZZ	1	
18:14	ZZZZZZ	1	
18:19	ZZZZZZ	1	
18:25	ZZZZZZ	1	
18:30	ZZZZZZ	1	
18:36	ZZZZZZ	1	
18:41	ZZZZZZ	1	
18:47	MA46535-CCV7	1	X
18:52	MA46535-CCB8	1	X
18:57	ZZZZZZ	1	
19:03	ZZZZZZ	1	
19:08	ZZZZZZ	1	
19:13	ZZZZZZ	1	
19:18	ZZZZZZ	1	
19:24	ZZZZZZ	1	
19:29	ZZZZZZ	1	
19:34	ZZZZZZ	1	
19:40	ZZZZZZ	1	
19:45	ZZZZZZ	1	
19:50	MA46535-CCV8	1	X
19:55	MA46535-CCB9	1	X
20:01	MP14275-MB1	1	X
		Element:	Mn

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
20:06	MP14275-B1	1	X	
20:11	MP14275-S1	1	X	
20:16	MP14275-S2	1	X	
20:21	JC86246-10	1		(a)
20:26	MP14275-SD1	5	X	
20:32	ZZZZZZ	1		
20:37	ZZZZZZ	1		
20:42	ZZZZZZ	1		
20:47	ZZZZZZ	1		
20:53	MA46535-CCV9	1	X	
20:58	MA46535-CCB10	1	X	
21:03	ZZZZZZ	1		
21:08	ZZZZZZ	1		
21:14	ZZZZZZ	1		
21:19	ZZZZZZ	1		
21:24	ZZZZZZ	1		
21:30	ZZZZZZ	1		
21:35	ZZZZZZ	1		
21:40	ZZZZZZ	1		
21:45	ZZZZZZ	1		
21:51	ZZZZZZ	1		
21:56	MA46535-CCV10	1	X	
22:01	MA46535-CCB11	1	X	
22:07	ZZZZZZ	1		
22:12	ZZZZZZ	1		
22:17	ZZZZZZ	1		
22:22	ZZZZZZ	1		
22:27	ZZZZZZ	1		
22:33	MP14303-B1	1	X	
22:38	ZZZZZZ	1		
22:43	MP14303-S1	1	X	
22:48	MP14303-S2	1	X	
22:53	JC86497-1	1	X	(a)
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
22:59	MA46535-CCV11	1	X	
23:04	MA46535-CCB12	1	X	
23:09	MP14303-SD1	5	X	
23:15	ZZZZZZ	1		
23:20	ZZZZZZ	1		
23:25	ZZZZZZ	1		
23:31	ZZZZZZ	1		
23:36	JC86426-1	1	X	
23:42	ZZZZZZ	1		
23:47	ZZZZZZ	1		
23:52	ZZZZZZ	1		
23:58	ZZZZZZ	1		
00:03	MA46535-CCV12	1	X	
00:08	MA46535-CCB13	1	X	
00:14	ZZZZZZ	1		
00:19	MP14319-B1	1		
00:24	MP14319-MB1	1		
00:30	MP14319-B2	1		
00:35	JC86180-1	1		(a)
00:41	MP14319-SD1	5		
00:46	ZZZZZZ	1		
00:52	ZZZZZZ	1		
00:57	ZZZZZZ	1		
01:03	ZZZZZZ	1		
01:08	MA46535-CCV13	1	X	
01:13	MA46535-CCB14	1	X	
01:19	ZZZZZZ	1		
01:24	ZZZZZZ	1		
01:29	ZZZZZZ	1		
01:35	ZZZZZZ	1		
01:40	ZZZZZZ	1		
01:46	ZZZZZZ	1		
01:51	ZZZZZZ	1		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
01:57	ZZZZZZ	1		
02:02	ZZZZZZ	1		
02:07	ZZZZZZ	1		
02:13	MA46535-CCV14	1	X	
02:18	MA46535-CCB15	1	X	
02:23	ZZZZZZ	1		
02:29	ZZZZZZ	1		
02:35	ZZZZZZ	1		
02:40	ZZZZZZ	1		
02:46	ZZZZZZ	1		
02:51	MP14276-B1	1		
02:56	MP14276-MB1	1	Saturation, see rerun	
03:02	MP14276-S1	1		
03:07	MP14276-S2	1		
03:12	JC86246-7	1	(a)	
03:17	MA46535-CCV15	1	X	
03:22	MA46535-CCB16	1	X	
03:27	MP14276-SD1	5		
03:33	ZZZZZZ	1		
03:38	ZZZZZZ	1		
03:43	ZZZZZZ	1		
03:48	ZZZZZZ	1		
03:54	ZZZZZZ	1		
03:59	ZZZZZZ	1		
04:04	ZZZZZZ	1		
04:09	ZZZZZZ	1		
04:15	ZZZZZZ	1		
04:20	MA46535-CCV16	1	X	
04:25	MA46535-CCB17	1	X	
04:30	ZZZZZZ	1		
04:36	ZZZZZZ	1		
04:41	ZZZZZZ	1		
04:46	ZZZZZZ	1		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
04:51	ZZZZZZ	1		
04:57	ZZZZZZ	1		
05:02	ZZZZZZ	1		
05:07	ZZZZZZ	1		
05:12	ZZZZZZ	1		
05:18	ZZZZZZ	1		
05:23	MA46535-CCV17	1	X	
05:28	MA46535-CCB18	1	X	
05:33	MP14277-MB1	1		
05:39	MP14277-B1	1		
05:44	MP14277-S1	1		
05:49	MP14277-S2	1		
05:54	JC86246-35	1		(a)
05:59	MP14277-SD1	5		
06:05	ZZZZZZ	1		
06:10	ZZZZZZ	1		
06:15	ZZZZZZ	1		
06:20	ZZZZZZ	1		
06:26	MA46535-CCV18	1	X	
06:31	MA46535-CCB19	1	X	
06:36	ZZZZZZ	1		
06:41	ZZZZZZ	1		
06:47	ZZZZZZ	1		
06:52	ZZZZZZ	1		
06:57	ZZZZZZ	1		
07:02	ZZZZZZ	1		
07:08	ZZZZZZ	1		
07:13	ZZZZZZ	1		
07:18	ZZZZZZ	1		
07:23	MA46535-CCV19	1	X	
07:29	MA46535-CCB20	1	X	
07:34	ZZZZZZ	1		
07:39	ZZZZZZ	1		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn
07:45	ZZZZZZ	1	
07:50	ZZZZZZ	1	
07:55	ZZZZZZ	1	
08:00	ZZZZZZ	1	
08:08	MP14303-MB1	1	X
08:13	MP14276-MB1	1	
08:19	MA46535-CCV20	1	X
08:24	MA46535-CCB21	1	X
08:30	ZZZZZZ	1	
08:35	ZZZZZZ	1	
08:41	ZZZZZZ	1	
08:46	ZZZZZZ	1	
08:57	MP14246-MB2	1	
09:02	MP14246-B2	1	
09:07	ZZZZZZ	1	
09:13	MA46535-CCV21	1	X
09:18	MA46535-CCB22	1	X
09:23	ZZZZZZ	1	
09:29	ZZZZZZ	1	
09:34	ZZZZZZ	1	

(a) Sample used for QC only; not part of login JC86426.

Element: Mn

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:44	MA46535-STD1	3789 R	100380 R	5052 R	8544 R
10:50	MA46535-STD2	3530	91602	4931	7287
10:55	ZZZZZZ	3606	94306	4969	7531
11:00	ZZZZZZ	3714	98779	4978	8370
11:05	MA46535-ICV1	3597	93498	4881	7517
11:18	MA46535-ICB1	3709	98275	5003	8365
11:25	MA46535-ICCV1	3604	94565	4897	7513
11:37	MA46535-CCB1	3707	98802	4974	8355
11:47	ZZZZZZ	3613	96663	4887	8003
11:52	ZZZZZZ	3690	98233	4960	8276
11:58	MA46535-CRI1	3619	96743	4936	8014
12:03	MA46535-CRID1	No results reported for the elements associated with this internal standard.			
12:09	MA46535-ICSA1	3324	87110	4828	6608
12:14	MA46535-ICSAB1	3314	86968	4838	6611
12:19	MA46535-HSTD1	3616	95673	5032	8018
12:24	MA46535-HSTD2	3306	87490	4830	6573
12:30	ZZZZZZ	10859 !	999999 !	8741 !	23883 !
12:35	ZZZZZZ	10922 !	999999 !	8805 !	24002 !
12:41	MA46535-CCV1	3543	93225	4874	7391
12:46	MA46535-CCB2	3654	98112	4940	8240
12:51	MA46535-CRID2	3670	98651	5008	8236
12:57	ZZZZZZ	3671	98829	5022	8284
13:02	ZZZZZZ	3586	96350	4967	8136
13:08	ZZZZZZ	3600	98531	4990	8262
13:13	ZZZZZZ	3674	99126	5082	8296
13:19	ZZZZZZ	3560	96788	5071	7801
13:24	ZZZZZZ	3707	100900	5163	8386
13:30	ZZZZZZ	3703	99990	5356	7638
13:35	ZZZZZZ	3691	100220	5145	8313
13:41	MA46535-CCV2	3606	95178	5027	7510
13:46	MA46535-CCB3	3704	100270	5111	8338
13:51	ZZZZZZ	3650	100110	5174	8190
13:57	ZZZZZZ	3712	101340	5190	8377

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
14:02	JC86015-21	3664	100420	5171	8205
14:07	MP14171-SD1	3693	100440	5135	8266
14:13	ZZZZZZ	3653	99986	5145	8175
14:18	ZZZZZZ	3716	100820	5164	8455
14:24	MP14241-S2	3430	93092	4985	7145
14:29	ZZZZZZ	3674	98037	5136	8284
14:35	ZZZZZZ	No results reported for the elements associated with this internal standard.			
14:40	MA46535-CCV3	3563	95319	5041	7419
14:45	MA46535-CCB4	3698	100190	5055	8308
14:51	ZZZZZZ	No results reported for the elements associated with this internal standard.			
14:56	ZZZZZZ	3690	99192	5248	7676
15:01	ZZZZZZ	3679	99124	5186	7815
15:07	ZZZZZZ	3696	98873	5215	7560
15:12	ZZZZZZ	3628	98306	5112	7682
15:17	ZZZZZZ	3737	79676	5218	8320
15:23	ZZZZZZ	3685	79524	5210	8204
15:28	ZZZZZZ	3650	98873	5185	7781
15:33	MP14317-B1	3589	97243	5149	7616
15:39	MA46535-CCV4	3584	96209	5081	7454
15:44	MA46535-CCB5	3701	100860	5117	8325
15:49	MP14317-MB1	3688	101240	5167	8302
15:55	ZZZZZZ	3698	99017	5144	8308
16:00	MP14317-S1	3628	99799	5413	7362
16:05	MP14317-S2	3698	99455	5402	7492
16:10	JC86331-5	3784	102130	5459	7830
16:16	MP14317-SD1	3744	101260	5249	8144
16:21	ZZZZZZ	10269 !	234490 !	8543 !	22572 !
16:26	ZZZZZZ	3737	100840	5291	7811
16:32	MA46535-CCV5	3542	95555	5051	7367
16:37	MA46535-CCB6	3654	99826	5064	8207
16:42	MA46535-ICSA2	3283	88189	4919	6515
16:48	MA46535-ICSAB2	3284	88439	4918	6527
16:53	ZZZZZZ	3187	86513	4720	6101

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:58	ZZZZZZ	3485	93476	5178	6450
17:04	ZZZZZZ	3698	99554	5294	7800
17:09	ZZZZZZ	3662	99892	5269	7605
17:14	ZZZZZZ	3696	99909	5241	7887
17:20	ZZZZZZ	3707	101140	5175	8178
17:25	ZZZZZZ	3625	99504	5293	7579
17:30	MA46535-CCV6	3557	95708	5025	7399
17:35	MA46535-CCB7	3673	100570	5053	8258
17:41	ZZZZZZ	3353	91855	4889	7031
17:46	ZZZZZZ	3336	92125	4891	7024
17:52	ZZZZZZ	3779	95619	5318	7314
17:57	ZZZZZZ	3696	100750	5050	8352
18:03	ZZZZZZ	3667	100830	5076	8215
18:08	ZZZZZZ	3677	100910	5071	8232
18:14	ZZZZZZ	10118 !	227180 !	8326 !	22265 !
18:19	ZZZZZZ	3668	99679	4994	8238
18:25	ZZZZZZ	3681	100930	5069	8281
18:30	ZZZZZZ	3693	101950	5093	8269
18:36	ZZZZZZ	3670	100290	5074	8297
18:41	ZZZZZZ	3664	99580	5048	8250
18:47	MA46535-CCV7	3616	97309	5097	7515
18:52	MA46535-CCB8	3676	101070	5087	8273
18:57	ZZZZZZ	3726	101290	5270	7947
19:03	ZZZZZZ	3762	102170	5416	7920
19:08	ZZZZZZ	3723	101470	5332	7815
19:13	ZZZZZZ	3706	100590	5259	7875
19:18	ZZZZZZ	3695	100940	5305	7836
19:24	ZZZZZZ	3722	102340	5273	7874
19:29	ZZZZZZ	3704	100710	5245	7891
19:34	ZZZZZZ	3636	99381	5207	7842
19:40	ZZZZZZ	3686	100650	5340	7727
19:45	ZZZZZZ	3685	101260	5366	7593
19:50	MA46535-CCV8	3556	96395	4929	7388

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
19:55	MA46535-CCB9	3682	100900	5095	8273
20:01	MP14275-MB1	3663	101430	5193	8272
20:06	MP14275-B1	3593	97951	5113	7621
20:11	MP14275-S1	3621	99612	5322	7363
20:16	MP14275-S2	3645	99889	5329	7391
20:21	JC86246-10	3717	101330	5431	7747
20:26	MP14275-SD1	3659	101870	5180	7961
20:32	ZZZZZZ	3727	102140	5345	7626
20:37	ZZZZZZ	3767	103330	5433	7518
20:42	ZZZZZZ	3719	101610	5385	7657
20:47	ZZZZZZ	3749	101790	5428	7656
20:53	MA46535-CCV9	3563	96835	5059	7420
20:58	MA46535-CCB10	3685	101370	5121	8293
21:03	ZZZZZZ	3967	107970	5704	7758
21:08	ZZZZZZ	3764	101530	5363	7745
21:14	ZZZZZZ	3776	101940	5291	7707
21:19	ZZZZZZ	3773	102300	5356	7766
21:24	ZZZZZZ	3773	102380	5307	7892
21:30	ZZZZZZ	3782	102050	5403	7816
21:35	ZZZZZZ	3802	103320	5363	7704
21:40	ZZZZZZ	3785	102910	5401	7706
21:45	ZZZZZZ	3798	102870	5254	7782
21:51	ZZZZZZ	3609	100300	5272	7567
21:56	MA46535-CCV10	3582	96673	5065	7475
22:01	MA46535-CCB11	3684	100810	5104	8323
22:07	ZZZZZZ	3811	101880	5376	7775
22:12	ZZZZZZ	3597	99904	5360	7727
22:17	ZZZZZZ	3738	101940	5378	7709
22:22	ZZZZZZ	3674	100310	5294	7884
22:27	ZZZZZZ	3682	100120	5231	7351
22:33	MP14303-B1	3604	97980	5136	7661
22:38	ZZZZZZ	3677	100780	5239	8321
22:43	MP14303-S1	3569	96858	5132	7476

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
22:48	MP14303-S2	3565	97118	5116	7476
22:53	JC86497-1	3603	98987	5195	7862
22:59	MA46535-CCV11	3573	96673	5091	7463
23:04	MA46535-CCB12	3682	101350	5155	8318
23:09	MP14303-SD1	3655	100270	5092	8190
23:15	ZZZZZZ	3698	101520	5170	8171
23:20	ZZZZZZ	3461	96072	5067	7339
23:25	ZZZZZZ	3564	99390	5078	7665
23:31	ZZZZZZ	3680	101080	5164	7999
23:36	JC86426-1	3330	92194	4971	6953
23:42	ZZZZZZ	3098	84875	4837	6164
23:47	ZZZZZZ	3523	96454	5099	7456
23:52	ZZZZZZ	No results reported for the elements associated with this internal standard.			
23:58	ZZZZZZ	3650	101200	5087	8222
00:03	MA46535-CCV12	3573	96581	5028	7469
00:08	MA46535-CCB13	3706	100510	5055	8361
00:14	ZZZZZZ	3624	100880	5121	8172
00:19	MP14319-B1	3594	98278	5109	7654
00:24	MP14319-MB1	3679	102660	5148	8337
00:30	MP14319-B2	3594	98179	5119	7648
00:35	JC86180-1	3639	101040	5148	8266
00:41	MP14319-SD1	3673	101280	5103	8293
00:46	ZZZZZZ	3637	101140	5144	8261
00:52	ZZZZZZ	3641	101360	5117	8272
00:57	ZZZZZZ	3645	101450	5138	8279
01:03	ZZZZZZ	No results reported for the elements associated with this internal standard.			
01:08	MA46535-CCV13	3546	95882	4957	7404
01:13	MA46535-CCB14	3664	100910	5005	8256
01:19	ZZZZZZ	3522	98018	5036	7924
01:24	ZZZZZZ	3559	98980	5083	7938
01:29	ZZZZZZ	3636	100590	5102	8236
01:35	ZZZZZZ	3601	99990	5117	8116
01:40	ZZZZZZ	No results reported for the elements associated with this internal standard.			

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
01:46	ZZZZZZ	3605	100190	5062	8083
01:51	ZZZZZZ	3550	98948	5085	7726
01:57	ZZZZZZ	3479	99272	5084	7956
02:02	ZZZZZZ	3630	101070	5125	8184
02:07	ZZZZZZ	3629	101340	5116	8239
02:13	MA46535-CCV14	3536	96496	4997	7375
02:18	MA46535-CCB15	3671	101350	5015	8284
02:23	ZZZZZZ	3636	101470	5122	8257
02:29	ZZZZZZ	3628	101660	5151	8233
02:35	ZZZZZZ	3645	101920	5130	8275
02:40	ZZZZZZ	3640	101760	5146	8268
02:46	ZZZZZZ	3645	101810	5154	8261
02:51	MP14276-B1	3595	98592	5065	7633
02:56	MP14276-MB1	No results reported for the elements associated with this internal standard.			
03:02	MP14276-S1	3641	99656	5272	7345
03:07	MP14276-S2	3631	99098	5287	7324
03:12	JC86246-7	3711	102380	5354	7636
03:17	MA46535-CCV15	3564	96955	5022	7427
03:22	MA46535-CCB16	3674	101820	5047	8280
03:27	MP14276-SD1	3719	102870	5206	8034
03:33	ZZZZZZ	3707	98474	5345	7633
03:38	ZZZZZZ	3720	102320	5282	7745
03:43	ZZZZZZ	3731	102630	5345	7689
03:48	ZZZZZZ	3726	102360	5310	7745
03:54	ZZZZZZ	3737	102680	5230	7707
03:59	ZZZZZZ	3731	102920	5406	7695
04:04	ZZZZZZ	3708	102480	5337	7756
04:09	ZZZZZZ	3703	102330	5314	7767
04:15	ZZZZZZ	3710	103140	5376	7624
04:20	MA46535-CCV16	3583	97719	5041	7462
04:25	MA46535-CCB17	3697	102560	5035	8336
04:30	ZZZZZZ	3733	102870	5360	7685
04:36	ZZZZZZ	3749	102400	5336	7760

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
04:41	ZZZZZZ	3714	103020	5377	7665
04:46	ZZZZZZ	3694	103380	5327	7605
04:51	ZZZZZZ	3722	102730	5354	7678
04:57	ZZZZZZ	3731	103440	5363	7638
05:02	ZZZZZZ	3720	98572	5268	7837
05:07	ZZZZZZ	3718	102460	5293	7865
05:12	ZZZZZZ	3728	102310	5226	7908
05:18	ZZZZZZ	3742	103000	5286	7789
05:23	MA46535-CCV17	3563	97405	5016	7420
05:28	MA46535-CCB18	3686	102150	5058	8299
05:33	MP14277-MB1	3690	103010	5163	8352
05:39	MP14277-B1	3575	99280	5102	7598
05:44	MP14277-S1	3663	101070	5318	7333
05:49	MP14277-S2	3645	101130	5368	7322
05:54	JC86246-35	3706	102780	5368	7592
05:59	MP14277-SD1	3719	102580	5156	8012
06:05	ZZZZZZ	3712	102170	5219	7869
06:10	ZZZZZZ	3708	102680	5315	7709
06:15	ZZZZZZ	3705	102570	5327	7651
06:20	ZZZZZZ	3704	102350	5308	7637
06:26	MA46535-CCV18	3569	97361	4987	7435
06:31	MA46535-CCB19	3681	102230	5015	8300
06:36	ZZZZZZ	3690	102110	5223	7760
06:41	ZZZZZZ	3717	102730	5317	7725
06:47	ZZZZZZ	3693	102500	5266	7760
06:52	ZZZZZZ	3689	102320	5305	7656
06:57	ZZZZZZ	3718	103020	5349	7637
07:02	ZZZZZZ	3716	100340	5348	7789
07:08	ZZZZZZ	3702	102560	5322	7694
07:13	ZZZZZZ	3736	102720	5351	7710
07:18	ZZZZZZ	3735	103450	5404	7624
07:23	MA46535-CCV19	3577	97897	5015	7450
07:29	MA46535-CCB20	3678	102570	5038	8294

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46535
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
07:34	ZZZZZZ	3722	102910	5300	7813
07:39	ZZZZZZ	3723	102820	5316	7798
07:45	ZZZZZZ	3721	103100	5358	7712
07:50	ZZZZZZ	3726	103420	5142	7710
07:55	ZZZZZZ	3734	105700	5376	7731
08:00	ZZZZZZ	3677	103050	5351	7589
08:08	MP14303-MB1	3690	103260	5118	8349
08:13	MP14276-MB1	3731	104060	5184	8466
08:19	MA46535-CCV20	3594	97887	4988	7509
08:24	MA46535-CCB21	3702	102460	5026	8377
08:30	ZZZZZZ	3712	102380	5069	8365
08:35	ZZZZZZ	3752	103650	5131	8594
08:41	ZZZZZZ	3674	101880	5130	7846
08:46	ZZZZZZ	3737	104060	5155	8564
08:57	MP14246-MB2	3779	103960	5198	8660
09:02	MP14246-B2	3669	100660	5166	7867
09:07	ZZZZZZ	3686	102020	5181	8225
09:13	MA46535-CCV21	3586	97328	5069	7514
09:18	MA46535-CCB22	3692	103470	5059	8387
09:23	ZZZZZZ	3733	103530	5154	8572
09:29	ZZZZZZ	3739	103260	5123	8582
09:34	ZZZZZZ	3734	103110	5158	8576

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			11:18		11:37		12:46		13:46	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	13	anr							
Antimony	6.0	1.1	anr							
Arsenic	3.0	1.2	anr							
Barium	200	.2	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	1.2	anr							
Cadmium	3.0	.2	anr							
Calcium	5000	3.7	anr							
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	1	anr							
Iron	100	2.4	anr							
Lead	3.0	1.5	anr							
Lithium	50	1.5								
Magnesium	5000	17	anr							
Manganese	15	.1	-0.100	<15	-0.100	<15	-0.100	<15	-0.100	<15
Molybdenum	20	.3								
Nickel	10	.3	anr							
Phosphorus	50	2								
Potassium	10000	40	anr							
Selenium	10	1.8	anr							
Silicon	200	.9								
Silver	10	.5	anr							
Sodium	10000	13	anr							
Strontium	10	.2								
Sulfur	50	3.5								
Thallium	10	1.6	anr							
Tin	10	.6								
Titanium	10	.6								
Tungsten	50	1.1								
Vanadium	50	.4	anr							
Zinc	20	.2	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			11:18		11:37		12:46		13:46	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.2								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			14:45		15:44		16:37		17:35	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	13	anr							
Antimony	6.0	1.1	anr							
Arsenic	3.0	1.2	anr							
Barium	200	.2	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	1.2	anr							
Cadmium	3.0	.2	anr							
Calcium	5000	3.7	anr							
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	1	anr							
Iron	100	2.4	anr							
Lead	3.0	1.5	anr							
Lithium	50	1.5								
Magnesium	5000	17	anr							
Manganese	15	.1	-0.100	<15	-0.100	<15	-0.100	<15	0.00	<15
Molybdenum	20	.3								
Nickel	10	.3	anr							
Phosphorus	50	2								
Potassium	10000	40	anr							
Selenium	10	1.8	anr							
Silicon	200	.9								
Silver	10	.5	anr							
Sodium	10000	13	anr							
Strontium	10	.2								
Sulfur	50	3.5								
Thallium	10	1.6	anr							
Tin	10	.6								
Titanium	10	.6								
Tungsten	50	1.1								
Vanadium	50	.4	anr							
Zinc	20	.2	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			14:45		15:44		16:37		17:35	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.2								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			18:52		19:55		20:58		22:01	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	13	anr							
Antimony	6.0	1.1	anr							
Arsenic	3.0	1.2	anr							
Barium	200	.2	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	1.2	anr							
Cadmium	3.0	.2	anr							
Calcium	5000	3.7	anr							
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	1	anr							
Iron	100	2.4	anr							
Lead	3.0	1.5	anr							
Lithium	50	1.5								
Magnesium	5000	17	anr							
Manganese	15	.1	-0.100	<15	0.00	<15	0.00	<15	0.00	<15
Molybdenum	20	.3								
Nickel	10	.3	anr							
Phosphorus	50	2								
Potassium	10000	40	anr							
Selenium	10	1.8	anr							
Silicon	200	.9								
Silver	10	.5	anr							
Sodium	10000	13	anr							
Strontium	10	.2								
Sulfur	50	3.5								
Thallium	10	1.6	anr							
Tin	10	.6								
Titanium	10	.6								
Tungsten	50	1.1								
Vanadium	50	.4	anr							
Zinc	20	.2	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			18:52		19:55		20:58		22:01	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.2								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			23:04		00:08		01:13		02:18	
Sample ID:			CCB12		CCB13		CCB14		CCB15	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	13	anr							
Antimony	6.0	1.1	anr							
Arsenic	3.0	1.2	anr							
Barium	200	.2	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	1.2	anr							
Cadmium	3.0	.2	anr							
Calcium	5000	3.7	anr							
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	1	anr							
Iron	100	2.4	anr							
Lead	3.0	1.5	anr							
Lithium	50	1.5								
Magnesium	5000	17	anr							
Manganese	15	.1	-0.100	<15	-0.100	<15	-0.100	<15	-0.100	<15
Molybdenum	20	.3								
Nickel	10	.3	anr							
Phosphorus	50	2								
Potassium	10000	40	anr							
Selenium	10	1.8	anr							
Silicon	200	.9								
Silver	10	.5	anr							
Sodium	10000	13	anr							
Strontium	10	.2								
Sulfur	50	3.5								
Thallium	10	1.6	anr							
Tin	10	.6								
Titanium	10	.6								
Tungsten	50	1.1								
Vanadium	50	.4	anr							
Zinc	20	.2	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			23:04		00:08		01:13		02:18	
Sample ID:			CCB12		CCB13		CCB14		CCB15	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.2								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			03:22		04:25		05:28		06:31	
Sample ID:			CCB16		CCB17		CCB18		CCB19	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	13	anr							
Antimony	6.0	1.1	anr							
Arsenic	3.0	1.2	anr							
Barium	200	.2	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	1.2	anr							
Cadmium	3.0	.2	anr							
Calcium	5000	3.7	anr							
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	1	anr							
Iron	100	2.4	anr							
Lead	3.0	1.5	anr							
Lithium	50	1.5								
Magnesium	5000	17	anr							
Manganese	15	.1	0.00	<15	0.00	<15	-0.100	<15	0.00	<15
Molybdenum	20	.3								
Nickel	10	.3	anr							
Phosphorus	50	2								
Potassium	10000	40	anr							
Selenium	10	1.8	anr							
Silicon	200	.9								
Silver	10	.5	anr							
Sodium	10000	13	anr							
Strontium	10	.2								
Sulfur	50	3.5								
Thallium	10	1.6	anr							
Tin	10	.6								
Titanium	10	.6								
Tungsten	50	1.1								
Vanadium	50	.4	anr							
Zinc	20	.2	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			03:22		04:25		05:28		06:31	
Sample ID:			CCB16		CCB17		CCB18		CCB19	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.2								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			07:29		08:24	
Sample ID:			CCB20		CCB21	
Metal	RL	IDL	raw	final	raw	final
Aluminum	200	13	anr			
Antimony	6.0	1.1	anr			
Arsenic	3.0	1.2	anr			
Barium	200	.2	anr			
Beryllium	1.0	.1	anr			
Bismuth	20	1.8				
Boron	100	1.2	anr			
Cadmium	3.0	.2	anr			
Calcium	5000	3.7	anr			
Chromium	10	.4	anr			
Cobalt	50	.3	anr			
Copper	10	1	anr			
Iron	100	2.4	anr			
Lead	3.0	1.5	anr			
Lithium	50	1.5				
Magnesium	5000	17	anr			
Manganese	15	.1	0.00	<15	0.00	<15
Molybdenum	20	.3				
Nickel	10	.3	anr			
Phosphorus	50	2				
Potassium	10000	40	anr			
Selenium	10	1.8	anr			
Silicon	200	.9				
Silver	10	.5	anr			
Sodium	10000	13	anr			
Strontium	10	.2				
Sulfur	50	3.5				
Thallium	10	1.6	anr			
Tin	10	.6				
Titanium	10	.6				
Tungsten	50	1.1				
Vanadium	50	.4	anr			
Zinc	20	.2	anr			

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			07:29		08:24	
Sample ID:			CCB20		CCB21	
Metal	RL	IDL	raw	final	raw	final
Zirconium	10	.2				

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA46535 Units: ug/l

Time:		11:25	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth			
Boron	anr		
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	anr		
Lithium			
Magnesium	anr		
Manganese	2000	2020	101.0
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium	anr		
Selenium	anr		
Silicon			
Silver	anr		
Sodium	anr		
Strontium			
Sulfur			
Thallium	anr		
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	anr		

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA46535 Units: ug/l

Time:		11:25	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		11:05			12:41			13:41	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	2000	2020	101.0	2000	2070	103.5	2000	1990	99.5
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		11:05			12:41			13:41	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		14:40			15:39			16:32	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	2000	2010	100.5	2000	1990	99.5	2000	2000	100.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		14:40			15:39			16:32	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		17:30			18:47			19:50	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	2000	1980	99.0	2000	1950	97.5	2000	1970	98.5
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		17:30			18:47			19:50	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		20:53			21:56			22:59	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	2000	1970	98.5	2000	1970	98.5	2000	1970	98.5
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		20:53			21:56			22:59	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		00:03			01:08			02:13	
Sample ID:	CCV	CCV12		CCV	CCV13		CCV	CCV14	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	2000	1970	98.5	2000	1990	99.5	2000	1970	98.5
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		00:03			01:08			02:13	
Sample ID:	CCV	CCV12		CCV	CCV13		CCV	CCV14	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		03:17			04:20			05:23	
Sample ID:	CCV	CCV15		CCV	CCV16		CCV	CCV17	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	2000	1960	98.0	2000	1940	97.0	2000	1950	97.5
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		03:17			04:20			05:23	
Sample ID:	CCV	CCV15		CCV	CCV16		CCV	CCV17	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		06:26			07:23			08:19	
Sample ID:	CCV	CCV18		CCV	CCV19		CCV	CCV20	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	2000	1950	97.5	2000	1950	97.5	2000	1940	97.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46535 Units: ug/l

Time:		06:26			07:23			08:19	
Sample ID:	CCV	CCV18		CCV	CCV19		CCV	CCV20	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA46535 Units: ug/l

Time:		12:19			12:24	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron	anr					
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron						
Lead	anr					
Lithium						
Magnesium						
Manganese	8000	8070	100.9			
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					

HIGH STANDARD CHECK SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA46535 Units: ug/l

Time:		12:19			12:24	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA46535 Units: ug/l

Time:				11:58		12:51	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID2	
Metal	True	True	True	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr			
Antimony	6.0	20	3.0	anr			
Arsenic	8.0	20	3.0	anr			
Barium	200		4.0	anr			
Beryllium	2.0		1.0	anr			
Bismuth	20						
Boron	100		10	anr			
Cadmium	3.0		1.0	anr			
Calcium	5000	2000	1000	anr			
Chromium	10		2.0	anr			
Cobalt	50		3.0	anr			
Copper	10		2.0	anr			
Iron	100	500		anr			
Lead	3.0	20	2.5	anr			
Lithium	50						
Magnesium	5000	2000	100	anr			
Manganese	15		3.0	16.2	108.0	3.40	113.3
Molybdenum	20						
Nickel	10		4.0	anr			
Phosphorus	50						
Potassium	5000		2000	anr			
Selenium	10	20	5.0	anr			
Silicon	200						
Silver	5.0		2.0	anr			
Sodium	5000		1000	anr			
Strontium	10						
Sulfur	50						
Thallium	10		2.0	anr			
Tin	10						
Titanium	10						
Tungsten	50						
Vanadium	50		2.0	anr			
Zinc	20		10	anr			

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA46535 Units: ug/l

Time:				11:58		12:51	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID2	
Metal	True	True	True	Results	% Rec	Results	% Rec
Zirconium	10						

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA46535 Units: ug/l

Time:			12:09		12:14		16:42		16:48	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	519000	103.8	518000	103.6	503000	100.6	501000	100.2
Antimony		1000	-2.60		1090	109.0	-2.40		1110	111.0
Arsenic		1000	0.900		1080	108.0	1.00		1090	109.0
Barium		500	-0.400		521	104.2	-0.800		508	101.6
Beryllium		500	0.200		508	101.6	0.100		499	99.8
Bismuth		500	8.80		533	106.6	5.50		539	107.8
Boron		500	-4.60		481	96.2	-4.60		484	96.8
Cadmium		1000	0.00		1030	103.0	-0.600		1010	101.0
Calcium	400000	400000	390000	97.5	389000	97.3	381000	95.3	379000	94.8
Chromium		500	0.600		485	97.0	0.800		476	95.2
Cobalt		500	-1.20		493	98.6	-1.10		498	99.6
Copper		500	-0.700		508	101.6	0.400		502	100.4
Iron	200000	200000	192000	96.0	197000	98.5	186000	93.0	193000	96.5
Lead		1000	0.600		975	97.5	2.50		978	97.8
Lithium		500	-7.40		529	105.8	-6.80		520	104.0
Magnesium	500000	500000	506000	101.2	511000	102.2	489000	97.8	496000	99.2
Manganese		500	2.50		502	100.4	1.10		489	97.8
Molybdenum		500	-1.90		487	97.4	-1.40		487	97.4
Nickel		1000	-0.600		985	98.5	-0.600		974	97.4
Phosphorus		500	2.70		524	104.8	9.10		516	103.2
Potassium			-336		-408		-329		-362	
Selenium		1000	2.70		1060	106.0	0.800		1060	106.0
Silicon		500	-14.1		515	103.0	-14.9		521	104.2
Silver		1000	-0.100		1110	111.0	-2.20		1080	108.0
Sodium			1.80		21.1		16.7		31.0	
Strontium		500	-2.70		521	104.2	-2.60		518	103.6
Sulfur		500	-30.7		490	98.0	-25.0		498	99.6
Thallium		1000	-0.500		983	98.3	-1.10		974	97.4
Tin		500	-2.20		475	95.0	-2.20		472	94.4
Titanium		500	-0.900		501	100.2	-0.700		487	97.4
Tungsten		500	8.40		491	98.2	9.20		484	96.8
Vanadium		500	0.800		495	99.0	1.60		484	96.8
Zinc		1000	-1.50		950	95.0	-1.60		939	93.9

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA46535 Units: ug/l

Time:			12:09		12:14		16:42		16:48	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	-1.40		488	97.6	-1.90		479	95.8

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:36	MA46555-STD1	1		STDA
10:41	MA46555-STD2	1		STDB
10:47	ZZZZZZ	1		
10:52	ZZZZZZ	1		
10:57	MA46555-ICV1	1		
11:02	MA46555-ICB1	1		
11:07	ZZZZZZ	1		
11:13	MA46555-ICCV1	1		
11:22	MA46555-CCB1	1		
11:27	MA46555-CRI1	1		
11:32	MA46555-CRID1	1		
11:37	MA46555-ICSA1	1		
11:42	MA46555-ICSAB1	1		
11:48	MA46555-HSTD1	1		
11:54	MA46555-HSTD2	1		
11:59	ZZZZZZ	1		
12:05	ZZZZZZ	1		
12:10	ZZZZZZ	1		
12:15	MA46555-CCV1	1		
12:20	MA46555-CCB2	1		
12:25	ZZZZZZ	1		
12:30	ZZZZZZ	1		
12:35	ZZZZZZ	1		
12:40	ZZZZZZ	5		
12:45	ZZZZZZ	5		
12:50	ZZZZZZ	5		
12:56	ZZZZZZ	25		
13:01	ZZZZZZ	1		
13:06	ZZZZZZ	1		
13:11	ZZZZZZ	1		
13:16	ZZZZZZ	1		
13:21	ZZZZZZ	1		
13:26	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:31	ZZZZZZ	1		
13:36	ZZZZZZ	1		
13:42	ZZZZZZ	5		
13:47	ZZZZZZ	1		
13:52	ZZZZZZ	2		
13:57	ZZZZZZ	25		
14:02	ZZZZZZ	5		
14:07	MA46555-CCV2	1		
14:12	MA46555-CCB3	1		
14:17	ZZZZZZ	5		
14:22	ZZZZZZ	1		
14:27	ZZZZZZ	2		
14:33	MP14334-MB1	1		
14:38	MP14334-B1	1		
14:43	MP14334-B2	1		
14:48	MP14334-S1	1		
14:53	MP14334-S2	1		
14:58	JC86402-9A	1		(sample used for QC only; not part of login JC86426)
15:03	ZZZZZZ	1		
15:08	MA46555-CCV3	1		
15:17	MA46555-CCB4	1		
15:22	MP14334-SD1	5		rerun for Zn
15:27	ZZZZZZ	1		
15:33	ZZZZZZ	1		
15:38	ZZZZZZ	1		
15:43	ZZZZZZ	1		
15:48	ZZZZZZ	200		
15:53	ZZZZZZ	50		
15:58	ZZZZZZ	1		
16:03	MP14423-MB1	1		
16:08	MA46555-CCV4	1		
16:13	MA46555-CCB5	1		
16:18	MP14423-B1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:23	ZZZZZZ	1		
16:29	ZZZZZZ	1		
16:34	MA46555-ICSA2	1		
16:39	MA46555-ICSAB2	1		
16:44	MP14421-B1	1		
16:49	MP14421-MB1	1		
16:54	MP14421-MB2	1		
17:00	MP14421-B2	1		
17:05	MA46555-CCV5	1		
17:10	MA46555-CCB6	1		
17:15	MP14421-S1	100		
17:20	MP14421-S2	100		
17:25	JC86634-1	100		(sample used for QC only; not part of login JC86426)
17:30	MP14421-SD1	500		
17:35	ZZZZZZ	100		
17:40	ZZZZZZ	100		
17:45	ZZZZZZ	100		
17:53	ZZZZZZ	1		
17:58	ZZZZZZ	1		
18:03	MA46555-CCV6	1		
18:08	MA46555-CCB7	1		
18:13	MA46555-CCV7	1		
18:18	MA46555-CCB8	1		
18:23	ZZZZZZ	100		
18:28	ZZZZZZ	100		
18:33	ZZZZZZ	100		
18:38	ZZZZZZ	100		
18:43	ZZZZZZ	100		
18:48	ZZZZZZ	100		
18:53	MP14455-B1	1		
18:58	MP14455-MB1	1		
19:04	MP14455-S1	1		
19:09	MA46555-CCV8	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:14	MA46555-CCB9	1		
19:19	MP14455-S2	1		
19:24	JC86049-1	1		(sample used for QC only; not part of login JC86426)
19:30	MP14455-SD1	5		
19:35	ZZZZZZ	1		
19:40	ZZZZZZ	1		
19:45	ZZZZZZ	1		
19:50	MP14303-B2	1		
---------->	Last reportable sample/prep for job JC86426			
19:55	ZZZZZZ	1		
20:00	ZZZZZZ	1		
20:06	MA46555-CCV9	1		
20:11	MA46555-CCB10	1		
---------->	Last reportable CCB for job JC86426			
20:16	ZZZZZZ	1		
20:21	ZZZZZZ	1		
20:26	ZZZZZZ	1		
20:32	ZZZZZZ	1		
20:37	ZZZZZZ	1		
20:42	ZZZZZZ	1		
20:47	ZZZZZZ	1		
20:52	ZZZZZZ	1		
20:57	ZZZZZZ	1		
21:03	ZZZZZZ	1		
21:08	ZZZZZZ	1		
21:13	ZZZZZZ	1		
21:18	MA46555-CCV10	1		
21:23	MA46555-CCB11	1		
21:28	MP14421-S1	10		
21:33	MP14421-S2	10		
21:39	ZZZZZZ	10		
21:43	MP14421-SD1	50		
21:49	ZZZZZZ	1000		
21:53	ZZZZZZ	10		
21:59	ZZZZZZ	1000		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
22:04	ZZZZZZ	5		
22:09	MA46555-CCV11	1		
22:14	MA46555-CCB12	1		
22:19	MP14332-MB2	1		
22:24	MP14332-B2	1		
22:29	MP14332-S1	1		
22:34	MP14332-S2	1		
22:39	JC86445-3	1		(sample used for QC only; not part of login JC86426)
22:44	MP14332-SD1	5		
22:49	ZZZZZZ	1		
22:54	ZZZZZZ	1		
22:59	ZZZZZZ	1		
23:04	MA46555-CCV12	1		
23:09	MA46555-CCB13	1		
23:15	ZZZZZZ	1		
23:20	ZZZZZZ	1		
23:25	ZZZZZZ	1		
23:30	ZZZZZZ	1		
23:35	ZZZZZZ	1		
23:41	ZZZZZZ	1		
23:46	MP14417-MB1	5		
23:51	MP14417-B1	5		
23:56	MP14417-S1	5		
00:01	MP14417-S2	5		
00:06	MA46555-CCV13	1		
00:11	MA46555-CCB14	1		
00:17	JC86545-5A	5		(sample used for QC only; not part of login JC86426)
00:22	MP14417-SD1	25		
00:27	ZZZZZZ	5		
00:32	ZZZZZZ	5		
00:37	ZZZZZZ	5		
00:42	ZZZZZZ	5		
00:48	ZZZZZZ	5		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
00:53	ZZZZZZ	5		
00:58	ZZZZZZ	5		
01:03	ZZZZZZ	5		
01:09	MA46555-CCV14	1		
01:14	MA46555-CCB15	1		
01:19	ZZZZZZ	5		
01:24	ZZZZZZ	5		
01:29	ZZZZZZ	5		
01:34	ZZZZZZ	5		
01:40	ZZZZZZ	5		
01:45	ZZZZZZ	5		
01:50	ZZZZZZ	5		
01:55	ZZZZZZ	5		
02:00	MP14318-MB1	1		
02:05	MP14318-B1	1		
02:10	MA46555-CCV15	1		
02:15	MA46555-CCB16	1		
02:20	MP14318-S1	1		Needs post spike for Cu
02:26	MP14318-S2	1		
02:31	JC86390-6	1		(sample used for QC only; not part of login JC86426)
02:36	MP14318-SD1	5		
02:41	ZZZZZZ	1		
02:46	ZZZZZZ	1		
02:51	ZZZZZZ	1		
02:56	ZZZZZZ	1		
03:01	ZZZZZZ	1		
03:06	ZZZZZZ	1		
03:11	MA46555-CCV16	1		
03:16	MA46555-CCB17	1		
03:21	ZZZZZZ	1		
03:26	ZZZZZZ	1		
03:31	ZZZZZZ	1		
03:36	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
03:41	ZZZZZZ	1		
03:46	ZZZZZZ	1		
03:51	ZZZZZZ	1		
03:56	ZZZZZZ	1		
04:01	ZZZZZZ	1		
04:06	ZZZZZZ	1		
04:11	MA46555-CCV17	1		
04:16	MA46555-CCB18	1		
04:21	ZZZZZZ	1		
04:27	ZZZZZZ	1		
04:31	ZZZZZZ	1		
04:37	MP14378-MB1	1		
04:42	MP14378-B1	1		
04:47	MP14378-S1	1		
04:52	MP14378-S2	1		
04:57	JC86493-2F	1		(sample used for QC only; not part of login JC86426)
05:02	MA46555-CCV18	1		
05:07	MA46555-CCB19	1		
05:12	MP14378-SD1	5		
05:18	ZZZZZZ	1		
05:23	ZZZZZZ	1		
05:28	ZZZZZZ	1		
05:33	ZZZZZZ	1		
05:38	ZZZZZZ	1		
05:44	ZZZZZZ	1		
05:49	ZZZZZZ	1		
05:54	ZZZZZZ	1		
05:59	MA46555-CCV19	1		
06:04	MA46555-CCB20	1		
06:09	ZZZZZZ	1		
06:14	ZZZZZZ	1		
06:21	ZZZZZZ	1		
06:26	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
06:31	ZZZZZZ	1		
06:36	ZZZZZZ	1		
06:41	ZZZZZZ	1		
06:47	ZZZZZZ	1		
06:52	MA46555-CCV20	1		
06:57	MA46555-CCB21	1		
07:02	ZZZZZZ	1		
07:07	ZZZZZZ	1		
07:13	MP14378-MB2	1		CCV out
07:18	MP14378-B2	1		CCV out
07:23	MA46555-CCV21	1		
07:28	MA46555-CCB22	1		
07:35	JC86634-1	10		(sample used for QC only; not part of login JC86426)
07:44	MA46555-CCV22	1		
07:54	MA46555-CCB23	1		

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn
10:47	ZZZZZZ	1	
10:52	ZZZZZZ	1	
10:57	MA46555-ICV1	1	X
11:02	MA46555-ICB1	1	X
11:07	ZZZZZZ	1	
11:13	MA46555-ICCV1	1	X
11:22	MA46555-CCB1	1	X
11:27	MA46555-CRI1	1	X
11:32	MA46555-CRID1	1	X
11:37	MA46555-ICSA1	1	X
11:42	MA46555-ICSAB1	1	X
11:48	MA46555-HSTD1	1	X
11:54	MA46555-HSTD2	1	X
11:59	ZZZZZZ	1	
12:05	ZZZZZZ	1	
12:10	ZZZZZZ	1	
12:15	MA46555-CCV1	1	X
12:20	MA46555-CCB2	1	X
12:25	ZZZZZZ	1	
12:30	ZZZZZZ	1	
12:35	ZZZZZZ	1	
12:40	ZZZZZZ	5	
12:45	ZZZZZZ	5	
12:50	ZZZZZZ	5	
12:56	ZZZZZZ	25	
13:01	ZZZZZZ	1	
13:06	ZZZZZZ	1	
13:11	ZZZZZZ	1	
13:16	ZZZZZZ	1	
13:21	ZZZZZZ	1	
13:26	ZZZZZZ	1	
13:31	ZZZZZZ	1	
13:36	ZZZZZZ	1	
		Element:	Mn

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
13:42	ZZZZZZ	5		
13:47	ZZZZZZ	1		
13:52	ZZZZZZ	2		
13:57	ZZZZZZ	25		
14:02	ZZZZZZ	5		
14:07	MA46555-CCV2	1	X	
14:12	MA46555-CCB3	1	X	
14:17	ZZZZZZ	5		
14:22	ZZZZZZ	1		
14:27	ZZZZZZ	2		
14:33	MP14334-MB1	1	X	
14:38	MP14334-B1	1	X	
14:43	MP14334-B2	1	X	
14:48	MP14334-S1	1	X	
14:53	MP14334-S2	1	X	
14:58	JC86402-9A	1		(a)
15:03	ZZZZZZ	1		
15:08	MA46555-CCV3	1	X	
15:17	MA46555-CCB4	1	X	
15:22	MP14334-SD1	5	X	
15:27	ZZZZZZ	1		
15:33	ZZZZZZ	1		
15:38	ZZZZZZ	1		
15:43	ZZZZZZ	1		
15:48	ZZZZZZ	200		
15:53	ZZZZZZ	50		
15:58	ZZZZZZ	1		
16:03	MP14423-MB1	1		
16:08	MA46555-CCV4	1	X	
16:13	MA46555-CCB5	1	X	
16:18	MP14423-B1	1		
16:23	ZZZZZZ	1		
16:29	ZZZZZZ	1		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn
16:34	MA46555-ICSA2	1	X
16:39	MA46555-ICSAB2	1	X
16:44	MP14421-B1	1	
16:49	MP14421-MB1	1	
16:54	MP14421-MB2	1	
17:00	MP14421-B2	1	
17:05	MA46555-CCV5	1	X
17:10	MA46555-CCB6	1	X
17:15	MP14421-S1	100	
17:20	MP14421-S2	100	
17:25	JC86634-1	100	
17:30	MP14421-SD1	500	
17:35	ZZZZZZ	100	
17:40	ZZZZZZ	100	
17:45	ZZZZZZ	100	
17:53	ZZZZZZ	1	
17:58	ZZZZZZ	1	
18:03	MA46555-CCV6	1	X
18:08	MA46555-CCB7	1	X
18:13	MA46555-CCV7	1	X
18:18	MA46555-CCB8	1	X
18:23	ZZZZZZ	100	
18:28	ZZZZZZ	100	
18:33	ZZZZZZ	100	
18:38	ZZZZZZ	100	
18:43	ZZZZZZ	100	
18:48	ZZZZZZ	100	
18:53	MP14455-B1	1	X
18:58	MP14455-MB1	1	X
19:04	MP14455-S1	1	X
19:09	MA46555-CCV8	1	X
19:14	MA46555-CCB9	1	X
19:19	MP14455-S2	1	X
		Element:	Mn

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
19:24	JC86049-1	1		(a)
19:30	MP14455-SD1	5	X	
19:35	ZZZZZZ	1		
19:40	ZZZZZZ	1		
19:45	ZZZZZZ	1		
19:50	MP14303-B2	1	X	
19:55	ZZZZZZ	1		
20:00	ZZZZZZ	1		
20:06	MA46555-CCV9	1	X	
20:11	MA46555-CCB10	1	X	
20:16	ZZZZZZ	1		
20:21	ZZZZZZ	1		
20:26	ZZZZZZ	1		
20:32	ZZZZZZ	1		
20:37	ZZZZZZ	1		
20:42	ZZZZZZ	1		
20:47	ZZZZZZ	1		
20:52	ZZZZZZ	1		
20:57	ZZZZZZ	1		
21:03	ZZZZZZ	1		
21:08	ZZZZZZ	1		
21:13	ZZZZZZ	1		
21:18	MA46555-CCV10	1	X	
21:23	MA46555-CCB11	1	X	
21:28	MP14421-S1	10		
21:33	MP14421-S2	10		
21:39	ZZZZZZ	10		
21:43	MP14421-SD1	50		
21:49	ZZZZZZ	1000		
21:53	ZZZZZZ	10		
21:59	ZZZZZZ	1000		
22:04	ZZZZZZ	5		
22:09	MA46555-CCV11	1	X	
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
22:14	MA46555-CCB12	1	X	
22:19	MP14332-MB2	1		
22:24	MP14332-B2	1		
22:29	MP14332-S1	1		
22:34	MP14332-S2	1		
22:39	JC86445-3	1		(a)
22:44	MP14332-SD1	5		
22:49	ZZZZZZ	1		
22:54	ZZZZZZ	1		
22:59	ZZZZZZ	1		
23:04	MA46555-CCV12	1	X	
23:09	MA46555-CCB13	1	X	
23:15	ZZZZZZ	1		
23:20	ZZZZZZ	1		
23:25	ZZZZZZ	1		
23:30	ZZZZZZ	1		
23:35	ZZZZZZ	1		
23:41	ZZZZZZ	1		
23:46	MP14417-MB1	5		
23:51	MP14417-B1	5		
23:56	MP14417-S1	5		
00:01	MP14417-S2	5		
00:06	MA46555-CCV13	1	X	
00:11	MA46555-CCB14	1	X	
00:17	JC86545-5A	5		(a)
00:22	MP14417-SD1	25		
00:27	ZZZZZZ	5		
00:32	ZZZZZZ	5		
00:37	ZZZZZZ	5		
00:42	ZZZZZZ	5		
00:48	ZZZZZZ	5		
00:53	ZZZZZZ	5		
00:58	ZZZZZZ	5		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
01:03	ZZZZZZ	5		
01:09	MA46555-CCV14	1	X	
01:14	MA46555-CCB15	1	X	
01:19	ZZZZZZ	5		
01:24	ZZZZZZ	5		
01:29	ZZZZZZ	5		
01:34	ZZZZZZ	5		
01:40	ZZZZZZ	5		
01:45	ZZZZZZ	5		
01:50	ZZZZZZ	5		
01:55	ZZZZZZ	5		
02:00	MP14318-MB1	1		
02:05	MP14318-B1	1		
02:10	MA46555-CCV15	1	X	
02:15	MA46555-CCB16	1	X	
02:20	MP14318-S1	1		
02:26	MP14318-S2	1		
02:31	JC86390-6	1		(a)
02:36	MP14318-SD1	5		
02:41	ZZZZZZ	1		
02:46	ZZZZZZ	1		
02:51	ZZZZZZ	1		
02:56	ZZZZZZ	1		
03:01	ZZZZZZ	1		
03:06	ZZZZZZ	1		
03:11	MA46555-CCV16	1	X	
03:16	MA46555-CCB17	1	X	
03:21	ZZZZZZ	1		
03:26	ZZZZZZ	1		
03:31	ZZZZZZ	1		
03:36	ZZZZZZ	1		
03:41	ZZZZZZ	1		
03:46	ZZZZZZ	1		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
03:51	ZZZZZZ	1		
03:56	ZZZZZZ	1		
04:01	ZZZZZZ	1		
04:06	ZZZZZZ	1		
04:11	MA46555-CCV17	1	X	
04:16	MA46555-CCB18	1	X	
04:21	ZZZZZZ	1		
04:27	ZZZZZZ	1		
04:31	ZZZZZZ	1		
04:37	MP14378-MB1	1	X	
04:42	MP14378-B1	1	X	
04:47	MP14378-S1	1	X	
04:52	MP14378-S2	1	X	
04:57	JC86493-2F	1	X	(a)
05:02	MA46555-CCV18	1	X	
05:07	MA46555-CCB19	1	X	
05:12	MP14378-SD1	5	X	
05:18	ZZZZZZ	1		
05:23	ZZZZZZ	1		
05:28	ZZZZZZ	1		
05:33	ZZZZZZ	1		
05:38	ZZZZZZ	1		
05:44	ZZZZZZ	1		
05:49	ZZZZZZ	1		
05:54	ZZZZZZ	1		
05:59	MA46555-CCV19	1	X	
06:04	MA46555-CCB20	1	X	
06:09	ZZZZZZ	1		
06:14	ZZZZZZ	1		
06:21	ZZZZZZ	1		
06:26	ZZZZZZ	1		
06:31	ZZZZZZ	1		
06:36	ZZZZZZ	1		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
06:41	ZZZZZZ	1		
06:47	ZZZZZZ	1		
06:52	MA46555-CCV20	1	X	
06:57	MA46555-CCB21	1	X	
07:02	ZZZZZZ	1		
07:07	ZZZZZZ	1		
07:13	MP14378-MB2	1	X	
07:18	MP14378-B2	1	X	
07:23	MA46555-CCV21	1	X	
07:28	MA46555-CCB22	1	X	
07:35	JC86634-1	10		(a)
07:44	MA46555-CCV22	1	X	
07:54	MA46555-CCB23	1	X	

(a) Sample used for QC only; not part of login JC86426.

Element: Mn

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:36	MA46555-STD1	6584 R	145770 R	26527 R	10091 R
10:41	MA46555-STD2	6141	134050	25896	8889
10:47	ZZZZZZ	6356	139280	26503	9195
10:52	ZZZZZZ	6601	147280	26702	10112
10:57	MA46555-ICV1	6325	137350	25690	9150
11:02	MA46555-ICB1	6592	142110	26329	10083
11:07	ZZZZZZ	6494	143840	26388	9722
11:13	MA46555-ICCV1	6338	138870	26209	9168
11:22	MA46555-CCB1	6576	146780	26259	10064
11:27	MA46555-CRI1	6499	143760	26339	9730
11:32	MA46555-CRID1	6578	145260	26415	10000
11:37	MA46555-ICSA1	5864	125600	25248	8324
11:42	MA46555-ICSAB1	5879	126430	25354	8372
11:48	MA46555-HSTD1	6338	141080	26323	9733
11:54	MA46555-HSTD2	5870	126850	25036	8270
11:59	ZZZZZZ	6430	142310	26402	9950
12:05	ZZZZZZ	6401	146800	26449	10049
12:10	ZZZZZZ	6607	145710	26506	10076
12:15	MA46555-CCV1	6293	137940	25991	9093
12:20	MA46555-CCB2	6600	146690	26459	10089
12:25	ZZZZZZ	6541	145100	26270	9944
12:30	ZZZZZZ	6747	150310	27248	10405
12:35	ZZZZZZ	6445	141880	26440	9430
12:40	ZZZZZZ	6143	135790	25805	8751
12:45	ZZZZZZ	6135	136320	25922	8759
12:50	ZZZZZZ	6127	136930	25878	8773
12:56	ZZZZZZ	6400	142670	26105	9437
13:01	ZZZZZZ	6671	148520	27002	10186
13:06	ZZZZZZ	6399	140910	26406	9330
13:11	ZZZZZZ	13787 !	279990 !	43378 !	20250 !
13:16	ZZZZZZ	6504	144510	26094	9947
13:21	ZZZZZZ	6492	143750	26046	9873
13:26	ZZZZZZ	6484	141890	27135	9111

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:31	ZZZZZZ	6551	142670	27418	9172
13:36	ZZZZZZ	6691	148500	27266	9498
13:42	ZZZZZZ	6646	144990	26944	9824
13:47	ZZZZZZ	6558	144080	27515	9232
13:52	ZZZZZZ	6753	147710	27296	9703
13:57	ZZZZZZ	6623	146000	26461	9939
14:02	ZZZZZZ	6570	143980	26316	9715
14:07	MA46555-CCV2	6257	137330	25726	9037
14:12	MA46555-CCB3	6512	145330	25893	9948
14:17	ZZZZZZ	6594	144450	26565	9764
14:22	ZZZZZZ	6610	147360	26570	10042
14:27	ZZZZZZ	5926	131470	25567	8249
14:33	MP14334-MB1	6595	147230	26525	10019
14:38	MP14334-B1	6421	141730	26382	9313
14:43	MP14334-B2	6433	141930	26280	9331
14:48	MP14334-S1	6252	139350	26440	8873
14:53	MP14334-S2	6245	136970	26005	8868
14:58	JC86402-9A	6320	139920	26071	9037
15:03	ZZZZZZ	13839 !	277360 !	43321 !	20247 !
15:08	MA46555-CCV3	5982	130930	24541	8679
15:17	MA46555-CCB4	6516	144930	25925	9942
15:22	MP14334-SD1	6449	142550	26083	9548
15:27	ZZZZZZ	6598	147040	26433	10033
15:33	ZZZZZZ	6327	140680	26153	9214
15:38	ZZZZZZ	6290	139570	26084	9130
15:43	ZZZZZZ	6558	146280	26389	9970
15:48	ZZZZZZ	6420	142190	25687	9520
15:53	ZZZZZZ	6369	140220	25719	9367
15:58	ZZZZZZ	6239	138600	26208	8929
16:03	MP14423-MB1	6711	149390	26787	10343
16:08	MA46555-CCV4	6275	137010	25737	9052
16:13	MA46555-CCB5	6499	144610	26055	9929
16:18	MP14423-B1	6471	143070	26254	9467

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:23	ZZZZZZ	6606	147480	26208	10188
16:29	ZZZZZZ	6537	148400	26992	10096
16:34	MA46555-ICSA2	5752	124000	24752	8177
16:39	MA46555-ICSAB2	5790	125300	24853	8250
16:44	MP14421-B1	6375	140790	26062	9329
16:49	MP14421-MB1	6758	147700	26273	10373
16:54	MP14421-MB2	6696	148020	26490	10265
17:00	MP14421-B2	6463	142560	26396	9441
17:05	MA46555-CCV5	6214	135870	25438	8955
17:10	MA46555-CCB6	6495	143400	25689	9903
17:15	MP14421-S1	No results reported for the elements associated with this internal standard.			
17:20	MP14421-S2	No results reported for the elements associated with this internal standard.			
17:25	JC86634-1	No results reported for the elements associated with this internal standard.			
17:30	MP14421-SD1	No results reported for the elements associated with this internal standard.			
17:35	ZZZZZZ	6492	142880	25686	9805
17:40	ZZZZZZ	6502	142830	25612	9757
17:45	ZZZZZZ	6464	142450	25513	9720
17:53	ZZZZZZ	6465	142850	26236	9467
17:58	ZZZZZZ	6550	144740	26124	9651
18:03	MA46555-CCV6	6213	136720	25364	8942
18:08	MA46555-CCB7	6521	144910	25487	9912
18:13	MA46555-CCV7	6238	136840	25375	8963
18:18	MA46555-CCB8	6495	143610	25606	9874
18:23	ZZZZZZ	6560	146620	26225	9834
18:28	ZZZZZZ	6492	144310	25685	9702
18:33	ZZZZZZ	6537	144330	25832	9847
18:38	ZZZZZZ	6495	144280	25914	9759
18:43	ZZZZZZ	6539	144860	25832	9820
18:48	ZZZZZZ	6573	145910	25961	9863
18:53	MP14455-B1	6482	142770	26050	9425
18:58	MP14455-MB1	6683	149110	26448	10269
19:04	MP14455-S1	6097	134400	25522	8582
19:09	MA46555-CCV8	6220	136400	25062	8936

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
19:14	MA46555-CCB9	6422	144250	25508	9772
19:19	MP14455-S2	6109	133920	25409	8586
19:24	JC86049-1	6103	135590	25352	8657
19:30	MP14455-SD1	6339	140460	25531	9271
19:35	ZZZZZZ	6040	135310	25339	8586
19:40	ZZZZZZ	6094	133540	25540	8549
19:45	ZZZZZZ	6552	144410	26116	9798
19:50	MP14303-B2	6433	141820	26290	9273
19:55	ZZZZZZ	6602	146060	26745	9562
20:00	ZZZZZZ	No results reported for the elements associated with this internal standard.			
20:06	MA46555-CCV9	6293	138100	25718	9010
20:11	MA46555-CCB10	6641	148080	26359	10039
20:16	ZZZZZZ	6621	147680	26269	10034
20:21	ZZZZZZ	6591	146490	26016	9929
20:26	ZZZZZZ	6685	149250	26737	10067
20:32	ZZZZZZ	6645	148710	26302	10023
20:37	ZZZZZZ	6732	151260	26761	10156
20:42	ZZZZZZ	6672	147970	26187	10034
20:47	ZZZZZZ	6627	148240	26290	9992
20:52	ZZZZZZ	6640	146870	26187	10047
20:57	ZZZZZZ	6628	148650	26276	10085
21:03	ZZZZZZ	6583	133690	26811	9086
21:08	ZZZZZZ	6676	149390	26639	10190
21:13	ZZZZZZ	6141	137570	25582	8770
21:18	MA46555-CCV10	6391	140500	25845	9153
21:23	MA46555-CCB11	6644	148750	26357	10068
21:28	MP14421-S1	6395	141270	26209	9283
21:33	MP14421-S2	6357	141320	26397	9241
21:39	ZZZZZZ	6342	141520	25947	9251
21:43	MP14421-SD1	6415	140540	25044	9551
21:49	ZZZZZZ	6568	145610	25260	9981
21:53	ZZZZZZ	6264	137300	25050	9176
21:59	ZZZZZZ	6555	145090	25362	9966

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
22:04	ZZZZZZ	6348	139080	25009	9201
22:09	MA46555-CCV11	6291	137600	25169	9058
22:14	MA46555-CCB12	6580	144920	25499	9998
22:19	MP14332-MB2	6642	147490	25993	10086
22:24	MP14332-B2	6415	140760	25478	9305
22:29	MP14332-S1	6467	142020	25921	9315
22:34	MP14332-S2	6467	141890	25846	9300
22:39	JC86445-3	6670	147930	26265	10085
22:44	MP14332-SD1	6675	148250	26305	10072
22:49	ZZZZZZ	6358	141080	25697	9143
22:54	ZZZZZZ	6689	146140	25889	9823
22:59	ZZZZZZ	6683	147520	26267	9832
23:04	MA46555-CCV12	6312	139060	25220	9070
23:09	MA46555-CCB13	6648	147540	25715	10082
23:15	ZZZZZZ	6480	143180	25915	9273
23:20	ZZZZZZ	6290	138400	25635	8773
23:25	ZZZZZZ	6459	142580	25927	9199
23:30	ZZZZZZ	No results reported for the elements associated with this internal standard.			
23:35	ZZZZZZ	6143	137340	25884	8707
23:41	ZZZZZZ	6110	136370	25685	8681
23:46	MP14417-MB1	6284	138080	25537	8916
23:51	MP14417-B1	6316	137830	25507	8860
23:56	MP14417-S1	6302	138490	25521	8846
00:01	MP14417-S2	6300	138630	25421	8838
00:06	MA46555-CCV13	6313	138880	25253	9067
00:11	MA46555-CCB14	6503	144260	24957	9904
00:17	JC86545-5A	6241	136240	24846	8836
00:22	MP14417-SD1	6351	140680	25133	9324
00:27	ZZZZZZ	6234	136430	24959	8777
00:32	ZZZZZZ	6202	135830	24846	8806
00:37	ZZZZZZ	6228	136500	25082	8847
00:42	ZZZZZZ	6184	135730	24829	8794
00:48	ZZZZZZ	6157	135190	24505	8760

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
00:53	ZZZZZZ	6200	999999 !a	24603	8821
00:58	ZZZZZZ	6199	134720	24690	8806
01:03	ZZZZZZ	6145	134730	24618	8673
01:09	MA46555-CCV14	6197	135840	24381	8934
01:14	MA46555-CCB15	6461	142810	24256	9837
01:19	ZZZZZZ	6195	136440	24676	8783
01:24	ZZZZZZ	6168	135530	24586	8745
01:29	ZZZZZZ	6088	134710	24238	8622
01:34	ZZZZZZ	6026	133530	24079	8544
01:40	ZZZZZZ	6031	132800	24207	8551
01:45	ZZZZZZ	6049	133100	23990	8570
01:50	ZZZZZZ	6078	133360	24446	8540
01:55	ZZZZZZ	6541	142690	24934	9667
02:00	MP14318-MB1	6682	148030	25200	10072
02:05	MP14318-B1	6368	139930	24699	9219
02:10	MA46555-CCV15	6217	136490	24214	8946
02:15	MA46555-CCB16	6474	143960	24396	9845
02:20	MP14318-S1	6352	139900	25632	9253
02:26	MP14318-S2	6374	138570	25398	8948
02:31	JC86390-6	6479	141050	25384	9112
02:36	MP14318-SD1	6572	144420	25015	9591
02:41	ZZZZZZ	6760	147290	25680	9533
02:46	ZZZZZZ	6664	146580	25900	9605
02:51	ZZZZZZ	6650	145810	25608	9557
02:56	ZZZZZZ	6565	144080	25925	9340
03:01	ZZZZZZ	6637	145430	25962	9389
03:06	ZZZZZZ	6676	146460	25964	9511
03:11	MA46555-CCV16	6246	136310	24293	8990
03:16	MA46555-CCB17	6461	144310	24480	9829
03:21	ZZZZZZ	6633	146770	25797	9475
03:26	ZZZZZZ	6741	147400	26374	9422
03:31	ZZZZZZ	6641	145900	26313	9411
03:36	ZZZZZZ	6689	150140	26863	9457

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
03:41	ZZZZZZ	6674	146660	25586	9613
03:46	ZZZZZZ	6657	145980	26132	9418
03:51	ZZZZZZ	6651	145050	26129	9376
03:56	ZZZZZZ	6667	146520	26166	9365
04:01	ZZZZZZ	6693	146700	26163	9414
04:06	ZZZZZZ	6658	146480	26053	9301
04:11	MA46555-CCV17	6263	136740	24413	9009
04:16	MA46555-CCB18	6512	144390	24275	9906
04:21	ZZZZZZ	6634	145760	26131	9263
04:27	ZZZZZZ	6657	146210	25941	9436
04:31	ZZZZZZ	6753	147690	26039	9433
04:37	MP14378-MB1	6608	147180	25165	10014
04:42	MP14378-B1	6467	142340	24726	9345
04:47	MP14378-S1	6199	136640	24405	8779
04:52	MP14378-S2	6143	135770	24273	8711
04:57	JC86493-2F	6280	138880	24656	8949
05:02	MA46555-CCV18	6216	136150	23841	8958
05:07	MA46555-CCB19	6512	144340	24285	9910
05:12	MP14378-SD1	6410	141900	24361	9447
05:18	ZZZZZZ	6316	140030	24493	9109
05:23	ZZZZZZ	6220	138500	24576	8896
05:28	ZZZZZZ	6239	137880	24509	8848
05:33	ZZZZZZ	6040	134960	23982	8659
05:38	ZZZZZZ	6197	136370	24278	8793
05:44	ZZZZZZ	6187	137530	24017	8975
05:49	ZZZZZZ	6059	134520	24055	8561
05:54	ZZZZZZ	6109	136290	24008	8812
05:59	MA46555-CCV19	6282	137710	23947	9049
06:04	MA46555-CCB20	6489	143640	24240	9899
06:09	ZZZZZZ	6168	137490	24195	8975
06:14	ZZZZZZ	6061	135040	24171	8666
06:21	ZZZZZZ	5569	124690	23304	7802
06:26	ZZZZZZ	6445	142560	24377	9508

INTERNAL STANDARD SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
06:31	ZZZZZZ	6199	135490	24020	8843
06:36	ZZZZZZ	6156	136250	23923	8935
06:41	ZZZZZZ	5399	119230	23178	7377
06:47	ZZZZZZ	5949	131630	23790	8354
06:52	MA46555-CCV20	6263	137590	23785	9036
06:57	MA46555-CCB21	6489	144070	24026	9918
07:02	ZZZZZZ	5968	131420	23648	8371
07:07	ZZZZZZ	5938	130320	23485	8340
07:13	MP14378-MB2	6535	146320	24394	9951
07:18	MP14378-B2	6392	141030	24297	9299
07:23	MA46555-CCV21	6215	136550	23604	8982
07:28	MA46555-CCB22	6496	144530	23719	9921
07:35	JC86634-1	6225	136930	23340	9143
07:44	MA46555-CCV22	6172	135230	23187	8930
07:54	MA46555-CCB23	6468	143430	23643	9897

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

(a) No samples reported for the elements associated with this internal standard.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46555 Units: ug/l

Time:			11:02		11:22		12:20		14:12	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.5	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	.8	anr							
Cadmium	3.0	.3	anr							
Calcium	5000	3.9	anr							
Chromium	10	.3	anr							
Cobalt	50	.3								
Copper	10	.6	anr							
Iron	100	2.6	anr							
Lead	3.0	1.6	anr							
Lithium	50	2.1								
Magnesium	5000	16								
Manganese	15	.1	0.00	<15	0.400	<15	0.400	<15	0.00	<15
Molybdenum	20	.4								
Nickel	10	.5	anr							
Phosphorus	50	1.9								
Potassium	10000	79								
Selenium	10	3	anr							
Silicon	200	1.2								
Silver	10	.5	anr							
Sodium	10000	9.9	anr							
Strontium	10	.3								
Sulfur	50	3.5								
Thallium	10	1.3								
Tin	10	.7								
Titanium	10	.5								
Tungsten	50	1.7								
Vanadium	50	.5	anr							
Zinc	20	.2	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46555 Units: ug/l

Time:			11:02		11:22		12:20		14:12	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46555 Units: ug/l

Time:			15:17		16:13		17:10		18:08	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.5	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	.8	anr							
Cadmium	3.0	.3	anr							
Calcium	5000	3.9	anr							
Chromium	10	.3	anr							
Cobalt	50	.3								
Copper	10	.6	anr							
Iron	100	2.6	anr							
Lead	3.0	1.6	anr							
Lithium	50	2.1								
Magnesium	5000	16								
Manganese	15	.1	0.00	<15	0.400	<15	0.100	<15	0.00	<15
Molybdenum	20	.4								
Nickel	10	.5	anr							
Phosphorus	50	1.9								
Potassium	10000	79								
Selenium	10	3	anr							
Silicon	200	1.2								
Silver	10	.5	anr							
Sodium	10000	9.9	anr							
Strontium	10	.3								
Sulfur	50	3.5								
Thallium	10	1.3								
Tin	10	.7								
Titanium	10	.5								
Tungsten	50	1.7								
Vanadium	50	.5	anr							
Zinc	20	.2	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46555 Units: ug/l

Time:			15:17		16:13		17:10		18:08	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46555 Units: ug/l

Time:			18:18		19:14		20:11	
Sample ID:			CCB8		CCB9		CCB10	
Metal	RL	IDL	raw	final	raw	final	raw	final
Aluminum	200	14	anr					
Antimony	6.0	1.4	anr					
Arsenic	3.0	1.5	anr					
Barium	200	.5	anr					
Beryllium	1.0	.1	anr					
Bismuth	20	1.8						
Boron	100	.8	anr					
Cadmium	3.0	.3	anr					
Calcium	5000	3.9	anr					
Chromium	10	.3	anr					
Cobalt	50	.3						
Copper	10	.6	anr					
Iron	100	2.6	anr					
Lead	3.0	1.6	anr					
Lithium	50	2.1						
Magnesium	5000	16						
Manganese	15	.1	0.00	<15	0.00	<15	0.00	<15
Molybdenum	20	.4						
Nickel	10	.5	anr					
Phosphorus	50	1.9						
Potassium	10000	79						
Selenium	10	3	anr					
Silicon	200	1.2						
Silver	10	.5	anr					
Sodium	10000	9.9	anr					
Strontium	10	.3						
Sulfur	50	3.5						
Thallium	10	1.3						
Tin	10	.7						
Titanium	10	.5						
Tungsten	50	1.7						
Vanadium	50	.5	anr					
Zinc	20	.2	anr					

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46555 Units: ug/l

Time:			18:18		19:14		20:11	
Sample ID:			CCB8		CCB9		CCB10	
Metal	RL	IDL	raw	final	raw	final	raw	final
Zirconium	10	.3						

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA46555 Units: ug/l

Time:		11:13	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth			
Boron	anr		
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt			
Copper	anr		
Iron	anr		
Lead	anr		
Lithium			
Magnesium			
Manganese	2000	2020	101.0
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium			
Selenium	anr		
Silicon			
Silver	anr		
Sodium	anr		
Strontium			
Sulfur			
Thallium			
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	anr		

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA46555 Units: ug/l

Time:		11:13	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		10:57			12:15			14:07	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium									
Manganese	2000	2020	101.0	2000	2020	101.0	2000	2060	103.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		10:57			12:15			14:07	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		15:08			16:08			17:05	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium									
Manganese	2000	2160	108.0	2000	2070	103.5	2000	2060	103.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		15:08			16:08			17:05	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		18:03			18:13			19:09	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium									
Manganese	2000	2020	101.0	2000	2030	101.5	2000	2050	102.5
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		18:03			18:13			19:09	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		20:06	
Sample ID:	CCV	CCV9	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth			
Boron	anr		
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt			
Copper	anr		
Iron	anr		
Lead	anr		
Lithium			
Magnesium			
Manganese	2000	2060	103.0
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium			
Selenium	anr		
Silicon			
Silver	anr		
Sodium	anr		
Strontium			
Sulfur			
Thallium			
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	anr		

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		20:06	
Sample ID:	CCV	CCV9	
Metal	True	Results	% Rec

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA46555 Units: ug/l

Time:		11:48			11:54	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron	anr					
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper	anr					
Iron						
Lead	anr					
Lithium						
Magnesium						
Manganese	8000	8000	100.0			
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					

HIGH STANDARD CHECK SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA46555 Units: ug/l

Time:		11:48			11:54	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA46555 Units: ug/l

Time:				11:27		11:32	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1	
Metal	True	True	True	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr			
Antimony	6.0	20	3.0	anr			
Arsenic	8.0	20	3.0	anr			
Barium	200		4.0	anr			
Beryllium	2.0		1.0	anr			
Bismuth	20						
Boron	100		10	anr			
Cadmium	3.0		1.0	anr			
Calcium	5000	2000	1000	anr			
Chromium	10		2.0	anr			
Cobalt	50		3.0				
Copper	10		2.0	anr			
Iron	100	500		anr			
Lead	3.0	20	2.5	anr			
Lithium	50						
Magnesium	5000	2000	100				
Manganese	15		3.0	15.8	105.3	3.60	120.0
Molybdenum	20						
Nickel	10		4.0	anr			
Phosphorus	50						
Potassium	5000		2000				
Selenium	10	20	5.0	anr			
Silicon	200						
Silver	5.0		2.0	anr			
Sodium	5000		1000	anr			
Strontium	10						
Sulfur	50						
Thallium	10		2.0				
Tin	10						
Titanium	10						
Tungsten	50						
Vanadium	50		2.0	anr			
Zinc	20		10	anr			

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA46555 Units: ug/l

Time:				11:27		11:32	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1	
Metal	True	True	True	Results	% Rec	Results	% Rec
Zirconium	10						

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA46555 Units: ug/l

Time:			11:37		11:42		16:34		16:39	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	498000	99.6	502000	100.4	506000	101.2	507000	101.4
Antimony		1000	0.100		1070	107.0	-0.400		1080	108.0
Arsenic		1000	-0.300		1070	107.0	0.600		1070	107.0
Barium		500	0.500		507	101.4	0.500		519	103.8
Beryllium		500	0.100		490	98.0	0.100		492	98.4
Bismuth		500	-2.20		506	101.2	-2.80		507	101.4
Boron		500	0.600		477	95.4	-0.400		481	96.2
Cadmium		1000	-0.300		999	99.9	-0.200		1010	101.0
Calcium	400000	400000	384000	96.0	378000	94.5	381000	95.3	366000	91.5
Chromium		500	-0.400		484	96.8	-0.100		488	97.6
Cobalt		500	1.10		488	97.6	1.30		489	97.8
Copper		500	-3.70		497	99.4	-3.60		501	100.2
Iron	200000	200000	189000	94.5	195000	97.5	187000	93.5	190000	95.0
Lead		1000	-0.400		950	95.0	-1.30		955	95.5
Lithium		500	-9.00		522	104.4	-9.00		533	106.6
Magnesium	500000	500000	496000	99.2	501000	100.2	492000	98.4	498000	99.6
Manganese		500	1.00		510	102.0	0.600		511	102.2
Molybdenum		500	0.700		484	96.8	1.00		488	97.6
Nickel		1000	-0.400		968	96.8	-0.200		971	97.1
Phosphorus		500	20.6		543	108.6	35.5		496	99.2
Potassium			366		286		455		311	
Selenium		1000	2.30		1050	105.0	0.00		1050	105.0
Silicon		500	3.50		508	101.6	3.30		512	102.4
Silver		1000	4.10		1130	113.0	3.10		1130	113.0
Sodium			158		146		241		182	
Strontium		500	-0.400		506	101.2	-0.300		515	103.0
Sulfur		500	10.6		514	102.8	17.0		511	102.2
Thallium		1000	-1.20		974	97.4	-2.30		971	97.1
Tin		500	-2.60		471	94.2	-1.90		472	94.4
Titanium		500	-1.60		504	100.8	-1.70		506	101.2
Tungsten		500	0.800		475	95.0	6.80		482	96.4
Vanadium		500	-1.50		495	99.0	-0.700		497	99.4
Zinc		1000	-1.30		949	94.9	-1.20		952	95.2

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA46555 Units: ug/l

Time:			11:37		11:42		16:34		16:39	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	-0.900		491	98.2	-0.900		495	99.0

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14303
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/17/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	13	46		
Antimony	6.0	1.1	4.7		
Arsenic	3.0	1.2	2.8		
Barium	200	.2	13		
Beryllium	1.0	.1	.5		
Bismuth	20	1.8	4		
Boron	100	1.2	63		
Cadmium	3.0	.2	1		
Calcium	5000	3.7	99		
Chromium	10	.4	2		
Cobalt	50	.3	2.6		
Copper	10	1	5.9		
Iron	100	2.4	32		
Lead	3.0	1.5	1.8		
Lithium	50	1.5	7.3		
Magnesium	5000	17	140		
Manganese	15	.1	1.4	0.0	<15
Molybdenum	20	.3	3.6		
Nickel	10	.3	1.7		
Phosphorus	50	2	18		
Potassium	10000	40	200		
Selenium	10	1.8	4.9		
Silicon	200	.9	100		
Silver	10	.5	1.9		
Sodium	10000	13	570		
Strontium	10	.2	1		
Sulfur	50	3.5	45		
Thallium	10	1.6	1.8		
Tin	10	.6	3.7		
Titanium	10	.6	2.5		
Tungsten	50	1.1	40		
Vanadium	50	.4	1.8		
Zinc	20	.2	6.9		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14303
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/17/19

Metal	RL	IDL	MDL	MB raw	final
Zirconium	10	.2	4.1		

Associated samples MP14303: JC86426-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14303
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/17/19

Metal	JC86497-1 Original MS		Spikelot MPSPK2	% Rec	QC Limits
Aluminum	anr				
Antimony					
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Bismuth					
Boron	anr				
Cadmium	anr				
Calcium					
Chromium	anr				
Cobalt					
Copper	anr				
Iron	anr				
Lead	anr				
Lithium					
Magnesium					
Manganese	2.1	1880	2000	93.9	75-125
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc	anr				

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14303
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/17/19

Metal	JC86497-1 Original MS	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP14303: JC86426-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14303
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/17/19

Metal	JC86497-1 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony						
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron	anr					
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper	anr					
Iron	anr					
Lead	anr					
Lithium						
Magnesium						
Manganese	2.1	1820	2000	90.9	3.2	20
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc	anr					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14303 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/17/19

Metal	JC86497-1 Original MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP14303: JC86426-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14303
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/17/19 04/17/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSD Result	Spikelot MPSPK2	% Rec	BSD RPD	QC Limit
Aluminum	anr								
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium									
Manganese	1960	2000	98.0	80-120	2030	2000	101.5	3.5	20
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Sulfur									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc	anr								

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14303
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/17/19 04/17/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSD Result	Spikelot MPSPK2	% Rec	BSD RPD	QC Limit
Zirconium									

Associated samples MP14303: JC86426-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14303
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/17/19

Metal	JC86497-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron	anr			
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron	anr			
Lead	anr			
Lithium				
Magnesium				
Manganese	2.10	1.90	9.5	0-10
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	anr			

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14303
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/17/19

Metal	JC86497-1 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP14303: JC86426-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Instrument Detection Limits

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Instrument ID: SSTRACE3 **Effective Date:** 02/18/19

Analyte	IDL ug/l
Aluminum	14.3
Antimony	1.4
Arsenic	1.5
Barium	.5
Beryllium	.1
Bismuth	1.8
Boron	.8
Cadmium	.3
Calcium	3.9
Chromium	.3
Cobalt	.3
Copper	.6
Iron	2.6
Lead	1.6
Lithium	2.1
Magnesium	16.3
Manganese	.1
Molybdenum	.4
Nickel	.5
Phosphorus	1.9
Potassium	79
Selenium	3
Silicon	1.2
Silver	.5
Sodium	9.9
Sulfur	3.5
Strontium	.3
Thallium	1.3
Tin	.7
Titanium	.5
Tungsten	1.7
Vanadium	.5
Yttrium	5
Zinc	.2
Zirconium	.3

The above applies to the following instrument runs:
MA46555

Instrument Detection Limits

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Instrument ID: SSTRACE5 **Effective Date:** 01/16/19

Analyte	IDL ug/l
Aluminum	13.3
Antimony	1.1
Arsenic	1.2
Barium	.2
Beryllium	.1
Bismuth	1.8
Boron	1.2
Cadmium	.2
Calcium	3.7
Chromium	.4
Cobalt	.3
Copper	1
Iron	2.4
Lead	1.5
Lithium	1.5
Magnesium	17
Manganese	.1
Molybdenum	.3
Nickel	.3
Phosphorus	2
Potassium	39.9
Selenium	1.8
Silicon	.9
Silver	.5
Sodium	13
Sulfur	3.5
Strontium	.2
Thallium	1.6
Tin	.6
Titanium	.6
Tungsten	1.1
Vanadium	.4
Zinc	.2
Zirconium	.2

The above applies to the following instrument runs:
MA46535

Instrument Linear Ranges

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Instrument ID: SSTRACE3 **Effective Date:** 07/16/18

Analyte	Linear Range ug/l
Aluminum	300000
Antimony	8000
Arsenic	8000
Barium	8000
Beryllium	8000
Bismuth	8000
Boron	8000
Cadmium	8000
Calcium	200000
Chromium	8000
Cobalt	8000
Copper	8000
Iron	200000
Lead	8000
Lithium	8000
Magnesium	300000
Manganese	8000
Molybdenum	8000
Nickel	8000
Palladium	8000
Phosphorus	8000
Potassium	200000
Selenium	8000
Silicon	25000
Silver	625
Sodium	200000
Sulfur	100000
Strontium	8000
Thallium	8000
Tin	8000
Titanium	8000
Tungsten	8000
Vanadium	8000
Zinc	8000
Zirconium	8000

The above applies to the following instrument runs:
MA46555

Instrument Linear Ranges

Job Number: JC86426
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Instrument ID: SSTRACE5 **Effective Date:** 07/16/18

Analyte	Linear Range ug/l
Aluminum	300000
Antimony	8000
Arsenic	8000
Barium	8000
Beryllium	8000
Bismuth	8000
Boron	8000
Cadmium	8000
Calcium	200000
Chromium	8000
Cobalt	8000
Copper	8000
Iron	200000
Lead	8000
Lithium	8000
Magnesium	300000
Manganese	8000
Molybdenum	8000
Nickel	8000
Palladium	8000
Phosphorus	8000
Potassium	200000
Selenium	8000
Silicon	25000
Silver	625
Sodium	200000
Sulfur	100000
Strontium	8000
Thallium	8000
Tin	8000
Titanium	8000
Tungsten	8000
Vanadium	8000
Zinc	8000
Zirconium	8000

The above applies to the following instrument runs:
MA46535

Metals Analysis

Raw Data

Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 4/18/2019 10:44:42 Type: Cal
Method: SGS 3(v299) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0061**	**-.0001**	**.0003**	**-.0004**	**-.0000**	**.0025**	**.0000**	**-.0002**	**-.0002**
Stddev	.0003	.0001	.0001	.0001	.0000	.0000	.0000	.0001	.0000
%RSD	5.635	77.33	19.75	26.24	74.78	.8679	46.05	41.74	8.749
#1	.0062	-.0001	.0003	-.0003	-.0000	.0025	.0000	-.0003	-.0002
#2	.0058	-.0001	.0004	-.0004	-.0000	.0025	.0001	-.0002	-.0003
#3	.0064	-.0003	.0003	-.0005	-.0000	.0025	.0000	-.0001	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.0000**	**.0003**	**-.0004**	**-.0002**	**-.0002**	**.0003**	**-.0007**	**-.0013**	**.0046**
Stddev	.0000	.0001	.0000	.0001	.0001	.0001	.0002	.0005	.0002
%RSD	127.3	26.04	4.280	32.91	56.88	35.85	20.75	35.25	3.963
#1	.0000	.0002	-.0004	-.0001	-.0001	.0003	-.0006	-.0009	.0044
#2	-.0000	.0003	-.0004	-.0002	-.0001	.0005	-.0008	-.0018	.0047
#3	-.0000	.0004	-.0004	-.0002	-.0003	.0003	-.0009	-.0013	.0048

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**-.0001**	**.0066**	**-.0007**	**.0002**	**.0001**	**.0029**	**.0001**	**-.0007**
Stddev	.0002	.0002	.0003	.0003	.0001	.0002	.0001	.0000	.0001
%RSD	144.8	200.6	4.835	39.43	42.43	243.4	5.122	33.48	16.36
#1	-.0000	.0000	.0065	-.0005	.0003	.0003	.0029	.0001	-.0006
#2	.0001	-.0003	.0064	-.0011	.0002	.0001	.0030	.0002	-.0008
#3	.0003	-.0000	.0070	-.0007	.0002	-.0001	.0027	.0002	-.0008

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.0000**	**.0012**	**-.0002**	**-.0018**	**-.0007**	**.0009**	**-.0085**
Stddev	.0000	.0007	.0001	.0001	.0001	.0010	.0001
%RSD	209.1	55.88	31.98	5.347	13.88	111.2	1.238
#1	-.0000	.0005	-.0002	-.0018	-.0008	.0009	-.0084
#2	-.0001	.0014	-.0001	-.0019	-.0006	.0019	-.0085
#3	.0000	.0018	-.0001	-.0017	-.0007	-.0001	-.0086

◀ Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 4/18/2019 10:44:42 Type: Cal
Method: SGS 3(v299) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100380.**	**5052.0**	**3789.4**	**8544.4**
Stddev	771.	29.9	17.4	40.2
%RSD	.76767	.59266	.46014	.47081
#1	101270.	5083.7	3770.0	8498.0
#2	99996.	5024.2	3803.9	8570.6
#3	99878.	5048.1	3794.2	8564.5

◀ Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 4/18/2019 10:50:10 Type: Cal
Method: SGS 3(v299) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**8.343**	**6.870**	**4.075**	**2.256**	**.2191**	**.7940**	**1.311**	**1.660**	**.0493**
Stddev	.032	.025	.006	.006	.0008	.0015	.003	.004	.0001
%RSD	.3871	.3700	.1476	.2825	.3868	.1838	.2085	.2599	.1194
#1	8.312	6.866	4.072	2.254	.2201	.7956	1.314	1.658	.0494
#2	8.377	6.898	4.082	2.263	.2187	.7927	1.309	1.665	.0494
#3	8.339	6.847	4.071	2.251	.2185	.7937	1.309	1.657	.0493

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.4330**	**5.743**	**.5542**	**.2835**	**.7858**	**.4468**	**.7849**	**3.048**	**4.084**
Stddev	.0005	.016	.0011	.0011	.0025	.0008	.0014	.009	.016
%RSD	.1070	.2736	.2066	.3708	.3137	.1681	.1816	.2955	.3835
#1	.4335	5.735	.5541	.2830	.7847	.4465	.7852	3.039	4.080
#2	.4329	5.761	.5553	.2847	.7886	.4476	.7862	3.057	4.102
#3	.4326	5.734	.5530	.2828	.7841	.4462	.7834	3.049	4.071

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.499**	**.3056**	**3.087**	**8.898**	**.9847**	**4.108**	**2.637**	**.9362**	**15.08**
Stddev	.005	.0010	.012	.024	.0012	.009	.004	.0031	.06
%RSD	.3225	.3282	.3898	.2735	.1206	.2166	.1575	.3273	.3774
#1	1.498	.3060	3.079	8.874	.9848	4.105	2.638	.9346	15.05
#2	1.505	.3064	3.101	8.923	.9859	4.118	2.641	.9397	15.15
#3	1.495	.3045	3.081	8.897	.9835	4.101	2.632	.9343	15.05

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.5371**	**2.052**	**1.398**	**.2369**	**.9197**	**3.144**	**.5783**
Stddev	.0014	.004	.001	.0010	.0007	.003	.0028
%RSD	.2627	.1789	.1012	.4048	.0770	.0896	.4866
#1	.5387	2.049	1.400	.2363	.9200	3.141	.5768
#2	.5362	2.056	1.397	.2380	.9203	3.145	.5815
#3	.5363	2.050	1.397	.2363	.9189	3.146	.5766

◀ Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 4/18/2019 10:50:10 Type: Cal
Method: SGS 3(v299) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**91602.**	**4930.8**	**3530.1**	**7287.4**
Stddev	225.	31.0	5.3	17.9
%RSD	.24539	.62937	.15133	.24516
#1	91388.	4945.1	3533.7	7298.9
#2	91582.	4895.2	3523.9	7266.8
#3	91836.	4952.2	3532.5	7296.5

Zoom In Zoom Out

Sample Name: ccvconf Acquired: 4/18/2019 10:55:10 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.006**	**2.031**	**2.016**	**2.001**	**2.010**	**1.947**	**2.016**	**2.021**	**.2459**
Stddev	.006	.005	.006	.002	.006	.003	.003	.004	.0001
%RSD	.3164	.2630	.3096	.1133	.2943	.1689	.1470	.1878	.0542
#1	2.012	2.034	2.010	1.998	2.005	1.949	2.015	2.019	.2461
#2	2.007	2.034	2.017	2.000	2.008	1.944	2.014	2.020	.2458
#3	1.999	2.025	2.022	2.003	2.016	1.949	2.020	2.026	.2459
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.984**	**2.039**	**1.973**	**2.065**	**2.031**	**2.007**	**1.985**	**40.22**	**40.83**
Stddev	.003	.002	.006	.007	.001	.009	.004	.09	.08
%RSD	.1440	.1075	.2855	.3616	.0670	.4450	.2207	.2139	.2040
#1	1.984	2.037	1.967	2.057	2.030	1.998	1.981	40.31	40.91
#2	1.981	2.040	1.972	2.066	2.032	2.010	1.985	40.22	40.83
#3	1.987	2.041	1.979	2.072	2.031	2.015	1.990	40.14	40.74
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**41.02**	**40.48**	**40.10**	**40.62**	**2.044**	**2.006**	**5.111**	**2.030**	**2.011**
Stddev	.08	.18	.07	.09	.006	.005	.007	.005	.005
%RSD	.1920	.4371	.1656	.2270	.3115	.2601	.1400	.2489	.2412
#1	41.10	40.67	40.17	40.72	2.037	2.000	5.103	2.024	2.017
#2	41.02	40.43	40.08	40.61	2.049	2.008	5.115	2.032	2.011
#3	40.94	40.32	40.04	40.54	2.047	2.010	5.115	2.034	2.007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccvconf Acquired: 4/18/2019 10:55:10 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.966**	**1.982**	**1.958**	**2.009**	**2.026**	**1.979**	**2.013**
Stddev	.003	.005	.002	.009	.004	.004	.011
%RSD	.1267	.2492	.1232	.4455	.1989	.1814	.5467
#1	1.966	1.976	1.958	2.000	2.022	1.983	2.000
#2	1.963	1.984	1.956	2.009	2.028	1.977	2.017
#3	1.968	1.985	1.960	2.018	2.029	1.976	2.022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**94306.**	**4969.2**	**3605.5**	**7530.7**
Stddev	113.	10.8	6.0	10.7
%RSD	.11965	.21714	.16544	.14256
#1	94398.	4957.8	3612.0	7540.1
#2	94340.	4970.3	3604.1	7533.1
#3	94180.	4979.3	3600.3	7519.0

Zoom In Zoom Out

Sample Name: ccbconf Acquired: 4/18/2019 11:00:13 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0001**	**-.0000**	**-.0001**	**.0004**	**.0002**	**-.0001**	**-.0001**	**-.0007**
Stddev	.0002	.0001	.0002	.0001	.0005	.0001	.0000	.0000	.0001
%RSD	123.5	61.92	20670.	123.4	121.8	42.97	59.66	38.95	13.11
#1	.0004	-.0001	-.0001	-.0001	.0009	.0002	-.0001	-.0001	-.0007
#2	.0000	-.0001	-.0001	-.0001	.0004	.0004	-.0000	-.0001	-.0006
#3	.0001	-.0000	.0002	.0000	-.0001	.0002	-.0001	-.0001	-.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0001**	**.0006**	**.0007**	**-.0007**	**-.0014**	**.0008**	**.0042**	**.0020**
Stddev	.0003	.0000	.0006	.0010	.0003	.0021	.0011	.0098	.0037
%RSD	88.80	7.377	99.30	137.8	41.52	145.4	141.3	231.0	187.3
#1	.0005	.0001	.0012	.0010	-.0007	.0010	.0003	.0081	.0063
#2	.0004	.0002	.0001	-.0004	-.0004	-.0024	.0021	-.0069	-.0001
#3	-.0000	.0001	.0004	.0016	-.0009	-.0028	.0000	.0115	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0063**	**-.0016**	**.0305**	**.0223**	**.0020**	**.0001**	**.0025**	**-.0005**	**-.0001**
Stddev	.0127	.0153	.0189	.0088	.0003	.0001	.0004	.0003	.0002
%RSD	201.5	938.3	61.90	39.35	14.28	263.4	14.48	50.17	142.5
#1	.0210	.0161	.0505	.0300	.0017	-.0000	.0026	-.0005	.0000
#2	-.0018	-.0106	.0130	.0242	.0022	-.0000	.0021	-.0003	-.0003
#3	-.0003	-.0104	.0281	.0127	.0021	.0002	.0028	-.0008	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccbconf Acquired: 4/18/2019 11:00:13 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0005**	**.0001**	**-.0003**	**.0000**	F **.0044**	**.0017**
Stddev	.0003	.0003	.0001	.0007	.0003	.0012	.0006
%RSD	114.2	64.57	193.8	242.2	700.4	28.07	36.25
#1	-.0006	.0001	.0002	-.0010	-.0003	.0058	.0019
#2	-.0003	.0007	-.0000	-.0002	.0004	.0035	.0010
#3	.0001	.0007	.0000	.0003	.0001	.0039	.0022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						.0040	
Low Limit						-.0040	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98779.**	**4977.9**	**3714.3**	**8370.3**
Stddev	420.	6.5	5.4	11.5
%RSD	.42557	.13146	.14408	.13711
#1	98294.	4972.0	3714.1	8374.1
#2	99007.	4984.9	3709.0	8357.4
#3	99037.	4976.8	3719.7	8379.3

Zoom In Zoom Out

Sample Name: icv 1 Acquired: 4/18/2019 11:05:46 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.045**	**2.053**	**2.007**	**2.024**	**1.992**	**1.953**	**2.019**	**2.004**	**.2557**
Stddev	.006	.008	.006	.007	.007	.004	.009	.007	.0006
%RSD	.2721	.4067	.2826	.3407	.3670	.2000	.4460	.3687	.2355
#1	2.039	2.045	2.008	2.026	1.996	1.956	2.026	2.006	.2554
#2	2.050	2.061	2.012	2.029	1.997	1.954	2.022	2.009	.2563
#3	2.046	2.054	2.001	2.016	1.984	1.948	2.009	1.995	.2552
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.997**	**2.008**	**2.002**	**2.044**	**2.002**	**1.983**	**1.988**	**40.32**	**40.57**
Stddev	.009	.006	.006	.008	.007	.005	.007	.04	.09
%RSD	.4238	.2987	.3234	.4072	.3684	.2769	.3709	.0975	.2160
#1	2.004	2.007	2.000	2.051	2.005	1.984	1.988	40.31	40.47
#2	2.000	2.014	2.009	2.047	2.008	1.988	1.995	40.37	40.62
#3	1.988	2.002	1.996	2.035	1.994	1.977	1.980	40.29	40.62
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**41.23**	**40.69**	**40.47**	**40.41**	**2.026**	**2.014**	F **5.251**	**2.038**	**2.044**
Stddev	.14	.22	.18	.11	.004	.007	.015	.004	.007
%RSD	.3334	.5384	.4419	.2679	.2205	.3517	.2880	.2220	.3602
#1	41.09	40.44	40.27	40.29	2.026	2.013	5.247	2.038	2.036
#2	41.37	40.83	40.61	40.50	2.030	2.021	5.268	2.042	2.050
#3	41.24	40.80	40.52	40.42	2.021	2.007	5.238	2.033	2.045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value							5.000		
Range							5.000%		

Zoom In Zoom Out

Sample Name: icv 1 Acquired: 4/18/2019 11:05:46 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.009**	**1.982**	**1.988**	**2.042**	**2.013**	**2.017**	**2.033**
Stddev	.005	.007	.005	.006	.009	.008	.010
%RSD	.2749	.3437	.2624	.3067	.4316	.3858	.4911
#1	2.013	1.980	1.990	2.042	2.016	2.009	2.040
#2	2.010	1.990	1.991	2.048	2.021	2.025	2.038
#3	2.002	1.977	1.982	2.036	2.004	2.018	2.022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**93498.**	**4881.3**	**3596.6**	**7517.2**
Stddev	442.	32.5	9.9	20.1
%RSD	.47263	.66653	.27576	.26729
#1	93156.	4914.6	3595.9	7507.8
#2	93341.	4879.7	3587.0	7503.5
#3	93997.	4849.6	3606.8	7540.3

Zoom In Zoom Out

Sample Name: icb 7 Acquired: 4/18/2019 11:18:55 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0001**	**.0000**	**.0000**	**.0001**	**-.0002**	**-.0001**	**.0001**	**-.0005**
Stddev	.0002	.0001	.0001	.0000	.0003	.0003	.0000	.0001	.0005
%RSD	5299.	88.72	1020.	35.56	380.3	131.7	41.85	255.1	93.54
#1	.0002	-.0001	.0002	.0000	.0005	-.0004	-.0001	-.0000	-.0004
#2	-.0000	-.0002	-.0001	.0001	-.0001	-.0003	-.0001	-.0000	-.0001
#3	-.0002	-.0000	-.0000	.0000	-.0001	.0001	-.0001	.0002	-.0010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0001**	**.0001**	**-.0008**	**-.0004**	**.0002**	**.0002**	**-.0084**	**.0046**
Stddev	.0002	.0001	.0019	.0009	.0003	.0012	.0005	.0164	.0049
%RSD	321.1	52.34	1797.	124.0	99.54	686.4	216.8	196.5	105.9
#1	.0002	.0001	.0020	-.0009	-.0007	.0015	.0006	-.0045	-.0008
#2	-.0002	.0000	-.0018	.0002	-.0003	-.0009	.0003	-.0264	.0061
#3	.0001	.0002	.0001	-.0016	-.0000	-.0000	-.0003	.0058	.0085
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0027**	**.0243**	**.0057**	**.0002**	**.0006**	**.0001**	**.0004**	**-.0002**	**.0001**
Stddev	.0016	.0262	.0407	.0051	.0006	.0001	.0002	.0009	.0001
%RSD	58.60	107.9	715.6	2300.	104.3	103.3	40.33	425.6	172.6
#1	.0026	.0466	.0245	-.0016	-.0000	.0000	.0004	.0008	.0002
#2	.0011	-.0045	.0336	.0060	.0013	.0001	.0006	-.0008	-.0001
#3	.0043	.0308	-.0410	-.0037	.0006	.0002	.0002	-.0007	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: icb 7 Acquired: 4/18/2019 11:18:55 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0009**	**-.0000**	**.0025**	**.0001**	**.0024**	**.0019**
Stddev	.0002	.0002	.0001	.0004	.0014	.0006	.0008
%RSD	41.18	23.21	423.1	18.15	2200.	25.55	40.71
#1	-.0008	.0010	.0001	.0030	-.0016	.0027	.0010
#2	-.0004	.0009	-.0001	.0024	.0009	.0017	.0024
#3	-.0004	.0006	-.0000	.0021	.0009	.0028	.0023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98275.**	**5002.9**	**3709.4**	**8364.9**
Stddev	220.	17.7	8.1	16.0
%RSD	.22389	.35470	.21819	.19070
#1	98121.	5004.0	3700.9	8352.0
#2	98177.	5020.1	3710.4	8360.1
#3	98527.	4984.7	3717.0	8382.7

Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 4/18/2019 11:25:09 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.055**	**2.088**	**2.016**	**2.009**	**1.995**	**1.959**	**2.023**	**2.024**	**.2478**
Stddev	.004	.004	.007	.006	.004	.003	.002	.005	.0002
%RSD	.1682	.2124	.3722	.3158	.1768	.1460	.1055	.2613	.0790
#1	2.055	2.089	2.024	2.017	1.992	1.962	2.023	2.030	.2476
#2	2.056	2.089	2.020	2.012	1.992	1.955	2.021	2.026	.2476
#3	2.050	2.082	2.013	2.003	1.999	1.959	2.026	2.019	.2480
#4	2.058	2.093	2.007	2.005	1.996	1.959	2.021	2.020	.2480
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.996**	**2.030**	**1.983**	**2.080**	**2.031**	**2.010**	**2.000**	**40.78**	**41.49**
Stddev	.003	.007	.009	.009	.004	.010	.010	.12	.03
%RSD	.1571	.3296	.4276	.4409	.2149	.5166	.4882	.2970	.0719
#1	2.001	2.036	1.993	2.092	2.035	2.017	2.012	40.91	41.48
#2	1.996	2.035	1.987	2.078	2.033	2.020	2.004	40.77	41.48
#3	1.996	2.022	1.976	2.081	2.031	2.005	1.992	40.63	41.45
#4	1.993	2.028	1.975	2.069	2.025	1.998	1.991	40.83	41.53
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 4/18/2019 11:25:09 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **42.10**	**41.63**	**41.03**	**41.37**	**2.054**	**2.012**	**5.122**	**2.033**	**2.068**
Stddev	.13	.11	.08	.06	.008	.008	.021	.008	.003
%RSD	.3040	.2545	.1850	.1566	.3967	.3972	.4152	.3911	.1218
#1	42.01	41.71	40.99	41.33	2.060	2.021	5.148	2.041	2.067
#2	42.06	41.47	41.05	41.42	2.061	2.017	5.130	2.038	2.069
#3	42.04	41.64	40.95	41.29	2.051	2.006	5.112	2.026	2.065
#4	42.29	41.67	41.13	41.42	2.044	2.004	5.099	2.026	2.071
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	40.00								
Range	5.000%								

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.971**	**1.983**	**1.972**	**2.027**	**2.040**	**2.014**	**2.020**
Stddev	.001	.007	.002	.009	.009	.005	.008
%RSD	.0524	.3387	.0738	.4378	.4383	.2300	.3937
#1	1.971	1.988	1.974	2.037	2.051	2.011	2.029
#2	1.970	1.989	1.971	2.025	2.041	2.013	2.022
#3	1.972	1.979	1.973	2.029	2.037	2.012	2.017
#4	1.970	1.976	1.971	2.016	2.030	2.021	2.010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 4/18/2019 11:25:09 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**94565.**	**4897.4**	**3604.3**	**7512.5**
Stddev	258.	15.0	11.4	20.0
%RSD	.27274	.30607	.31672	.26567
#1	94680.	4888.5	3591.1	7486.0
#2	94627.	4919.7	3598.4	7508.2
#3	94188.	4888.4	3614.3	7526.4
#4	94766.	4893.0	3613.3	7529.2

Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 4/18/2019 11:37:25 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0000**	**-.0002**	**-.0001**	**.0002**	**.0002**	**-.0001**	**-.0000**	**-.0008**
Stddev	.0002	.0001	.0001	.0001	.0004	.0003	.0001	.0003	.0005
%RSD	8978.	293.7	49.35	134.4	176.2	142.7	115.3	1399.	61.83
#1	.0001	-.0000	-.0004	-.0001	.0001	.0004	-.0000	-.0002	-.0007
#2	-.0002	-.0000	-.0003	.0000	-.0001	.0002	-.0002	-.0001	-.0013
#3	.0001	.0001	-.0001	-.0002	.0006	-.0001	-.0000	.0003	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0001**	**.0003**	**-.0002**	**-.0007**	**-.0010**	**.0002**	**-.0118**	**.0048**
Stddev	.0002	.0001	.0001	.0010	.0006	.0004	.0006	.0165	.0059
%RSD	60.88	124.4	50.76	474.3	87.87	40.54	346.1	139.9	121.8
#1	.0005	.0002	.0002	-.0011	-.0012	-.0009	-.0002	-.0151	.0011
#2	.0005	.0001	.0002	.0009	-.0000	-.0014	-.0002	.0061	.0116
#3	.0001	-.0000	.0004	-.0005	-.0008	-.0006	.0008	-.0265	.0018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0046**	**-.0117**	**.0328**	**-.0026**	**.0009**	**-.0000**	**.0005**	**-.0004**	**.0000**
Stddev	.0052	.0382	.0160	.0121	.0002	.0001	.0004	.0001	.0001
%RSD	113.8	326.1	48.73	465.5	16.75	3923.	82.24	35.07	540.9
#1	-.0012	-.0540	.0274	-.0165	.0010	-.0000	.0008	-.0003	.0001
#2	.0088	-.0014	.0507	.0029	.0008	.0001	.0007	-.0003	-.0001
#3	.0061	.0203	.0201	.0058	.0011	-.0001	.0000	-.0006	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 4/18/2019 11:37:25 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0009**	**.0001**	**.0015**	**.0001**	**.0023**	**.0026**
Stddev	.0002	.0005	.0000	.0036	.0006	.0011	.0004
%RSD	106.1	48.40	57.85	236.0	1259.	48.75	16.03
#1	.0000	.0005	.0001	-.0012	-.0005	.0021	.0028
#2	-.0002	.0009	.0001	.0002	.0007	.0013	.0029
#3	-.0003	.0014	.0000	.0056	-.0000	.0035	.0021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98802.**	**4973.9**	**3706.7**	**8354.8**
Stddev	155.	25.7	15.3	37.6
%RSD	.15702	.51601	.41285	.45031
#1	98665.	4989.6	3690.0	8315.1
#2	98772.	4987.9	3710.1	8359.2
#3	98971.	4944.3	3720.0	8390.0

Zoom In Zoom Out

Sample Name: sampleconf Acquired: 4/18/2019 11:47:11 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2168**	**.0021**	**.0032**	**.0521**	**.0114**	**.0104**	**.0165**	**.0105**	**.0050**
Stddev	.0005	.0001	.0003	.0004	.0001	.0002	.0001	.0003	.0004
%RSD	.2522	6.624	8.454	.8186	.7935	2.325	.7818	3.272	7.222
#1	.2171	.0019	.0032	.0517	.0115	.0102	.0165	.0109	.0051
#2	.2170	.0021	.0029	.0525	.0114	.0102	.0164	.0103	.0053
#3	.2161	.0022	.0035	.0520	.0113	.0106	.0166	.0103	.0046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0535**	**.0227**	**.0084**	**.0095**	**.0024**	**.0097**	**.0070**	**.2129**	**5.573**
Stddev	.0004	.0001	.0003	.0004	.0005	.0011	.0010	.0065	.005
%RSD	.7787	.6188	3.997	4.716	21.68	11.81	14.06	3.045	.0947
#1	.0533	.0226	.0087	.0090	.0022	.0084	.0065	.2111	5.570
#2	.0532	.0229	.0085	.0095	.0030	.0106	.0081	.2201	5.571
#3	.0540	.0226	.0081	.0099	.0020	.0101	.0063	.2075	5.579
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.1663**	**5.607**	**5.315**	**5.402**	**.1069**	**.0227**	**.2212**	F **.0127**	**.0110**
Stddev	.0095	.024	.007	.023	.0008	.0003	.0009	.0002	.0002
%RSD	5.700	.4355	.1418	.4278	.7319	1.141	.4021	1.273	1.566
#1	.1747	5.631	5.318	5.425	.1078	.0229	.2219	.0128	.0110
#2	.1560	5.609	5.307	5.404	.1063	.0229	.2216	.0125	.0108
#3	.1682	5.582	5.321	5.378	.1067	.0224	.2202	.0127	.0111
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
Value	.1000							.0100	
Range	20.00%							20.00%	

Zoom In Zoom Out

Sample Name: sampleconf Acquired: 4/18/2019 11:47:11 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0106**	**.0559**	**.0103**	**.0575**	**.0233**	**.0596**	**.0556**
Stddev	.0002	.0004	.0002	.0026	.0008	.0002	.0001
%RSD	1.735	.6495	1.585	4.475	3.327	.2761	.2612
#1	.0105	.0563	.0103	.0595	.0236	.0595	.0556
#2	.0108	.0556	.0102	.0546	.0238	.0597	.0555
#3	.0105	.0559	.0105	.0585	.0224	.0598	.0558
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96663.**	**4887.1**	**3612.7**	**8003.4**
Stddev	320.	24.3	12.0	21.8
%RSD	.33114	.49759	.33195	.27276
#1	96634.	4889.7	3602.8	7984.4
#2	96997.	4910.0	3609.2	7998.6
#3	96359.	4861.6	3626.0	8027.3

Zoom In Zoom Out

Sample Name: sampleconf Acquired: 4/18/2019 11:52:38 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0047**	F **.0013**	**.0011**	**.0034**	**.0025**	F **.0000**	**.0035**	**.0046**
Stddev	.0002	.0000	.0001	.0001	.0001	.0002	.0001	.0001
%RSD	4.513	2.522	9.980	2.561	5.301	14240.	1.498	2.938
#1	.0048	.0013	.0010	.0033	.0024	.0002	.0036	.0045
#2	.0045	.0012	.0011	.0035	.0025	-.0001	.0035	.0047
#3	.0049	.0013	.0012	.0035	.0026	-.0001	.0035	.0045
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value		.0010				.0020		
Range		20.00%				-30.00%		

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0004**	**.0025**	**.0125**	F **.0037**	F **.0025**	F **-.0007**	**.0064**	F **.0008**
Stddev	.0000	.0001	.0001	.0004	.0006	.0008	.0011	.0012
%RSD	8.811	5.125	.6111	10.93	22.57	112.0	18.04	160.1
#1	-.0005	.0024	.0124	.0032	.0028	-.0008	.0051	-.0002
#2	-.0005	.0027	.0125	.0039	.0028	.0001	.0073	.0004
#3	-.0004	.0026	.0124	.0040	.0018	-.0014	.0067	.0022
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Pass	Chk Fail
Value	.0020			.0030	.0020	.0025		.0030
Range	-30.00%			20.00%	20.00%	-30.00%		-30.00%

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1191**	**1.228**	**.0039**	**.1276**	**2.356**	**1.186**	F **.0007**	**-.0001**
Stddev	.0171	.005	.0037	.0307	.034	.006	.0005	.0001
%RSD	14.33	.4136	94.31	24.02	1.430	.4870	72.75	120.7
#1	.1147	1.228	.0021	.1629	2.384	1.182	.0012	.0000
#2	.1379	1.233	.0081	.1075	2.365	1.184	.0002	-.0001
#3	.1047	1.223	.0014	.1125	2.318	1.193	.0007	-.0001
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Fail	None
Value							.0100	
Range							-30.00%	

Zoom In Zoom Out

Sample Name: sampleconf Acquired: 4/18/2019 11:52:38 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0032**	**-.0005**	**-.0001**	**-.0003**	F **-.0005**	F **-.0000**	F **.0009**	F **.0002**
Stddev	.0005	.0001	.0002	.0003	.0008	.0001	.0004	.0001
%RSD	15.41	13.74	183.0	125.0	169.2	626.8	42.05	47.30
#1	.0036	-.0005	-.0001	.0001	-.0013	-.0001	.0005	.0003
#2	.0027	-.0004	.0001	-.0006	-.0002	.0001	.0010	.0003
#3	.0034	-.0004	-.0003	-.0002	.0001	-.0001	.0012	.0001
Check ?	None	None	None	None	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value					.0040	.0040	.0040	.0040
Range					-30.00%	-30.00%	-30.00%	-30.00%

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	F **.0009**	**.0029**
Stddev	.0024	.0010
%RSD	258.5	33.87
#1	.0023	.0032
#2	-.0019	.0036
#3	.0024	.0018
Check ?	Chk Fail	Chk Pass
Value	.0040	
Range	-30.00%	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98233.**	**4959.7**	**3690.1**	**8275.7**
Stddev	96.	6.5	8.0	18.7
%RSD	.09748	.13056	.21781	.22559
#1	98154.	4952.5	3681.6	8259.6
#2	98340.	4961.5	3691.1	8271.4
#3	98206.	4965.1	3697.6	8296.2

Zoom In Zoom Out

Sample Name: cri Acquired: 4/18/2019 11:58:09 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2127**	**.0021**	**.0030**	**.0507**	**.0114**	**.0100**	**.0162**	**.0105**	**.0047**
Stddev	.0007	.0000	.0001	.0000	.0004	.0007	.0001	.0002	.0003
%RSD	.3203	1.770	4.084	.0178	3.402	6.538	.4181	1.833	6.666
#1	.2134	.0021	.0029	.0507	.0117	.0099	.0162	.0105	.0047
#2	.2124	.0020	.0031	.0507	.0115	.0107	.0161	.0102	.0049
#3	.2122	.0020	.0031	.0507	.0109	.0094	.0162	.0106	.0043
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0526**	**.0217**	**.0072**	**.0084**	**.0025**	**.0102**	**.0061**	**.2138**	**5.471**
Stddev	.0001	.0001	.0014	.0005	.0002	.0003	.0007	.0056	.025
%RSD	.2190	.5739	19.24	5.530	8.857	2.719	10.82	2.602	.4646
#1	.0528	.0217	.0071	.0078	.0026	.0102	.0062	.2173	5.459
#2	.0525	.0218	.0059	.0086	.0023	.0105	.0067	.2166	5.453
#3	.0526	.0215	.0086	.0086	.0027	.0099	.0054	.2074	5.500
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1094**	**5.443**	**5.228**	**5.285**	**.1050**	**.0222**	**.2195**	**.0118**	**.0106**
Stddev	.0049	.044	.047	.039	.0009	.0001	.0010	.0005	.0002
%RSD	4.457	.8172	.9057	.7432	.8379	.4394	.4424	3.945	1.948
#1	.1150	5.423	5.205	5.280	.1056	.0223	.2200	.0114	.0106
#2	.1068	5.411	5.196	5.248	.1055	.0221	.2201	.0118	.0108
#3	.1064	5.494	5.282	5.326	.1040	.0221	.2184	.0123	.0104
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: cri Acquired: 4/18/2019 11:58:09 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0101**	**.0545**	**.0099**	**.0533**	**.0232**	F **.0605**	**.0548**
Stddev	.0001	.0002	.0003	.0028	.0023	.0009	.0015
%RSD	1.188	.4101	3.274	5.193	9.860	1.439	2.665
#1	.0099	.0545	.0099	.0561	.0251	.0613	.0532
#2	.0102	.0543	.0102	.0506	.0206	.0596	.0561
#3	.0100	.0548	.0095	.0533	.0239	.0607	.0551
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
Value						.0500	
Range						20.00%	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96743.**	**4936.0**	**3619.1**	**8013.5**
Stddev	180.	23.5	6.7	9.5
%RSD	.18616	.47658	.18376	.11890
#1	96754.	4937.1	3617.9	8002.8
#2	96557.	4958.9	3613.2	8021.1
#3	96917.	4911.9	3626.3	8016.5

Zoom In Zoom Out

Sample Name: crid Acquired: 4/18/2019 12:03:38 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0046**	**.0010**	**.0011**	**.0033**	F **.0026**	F **.0004**	**.0034**	**.0046**
Stddev	.0003	.0001	.0000	.0001	.0001	.0001	.0000	.0003
%RSD	5.440	10.36	.9722	4.117	5.129	26.48	1.214	7.480
#1	.0047	.0010	.0011	.0032	.0027	.0004	.0034	.0043
#2	.0043	.0012	.0011	.0034	.0027	.0003	.0034	.0050
#3	.0048	.0010	.0011	.0033	.0025	.0005	.0035	.0045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass	Chk Pass
Value					.0020	.0020		
Range					30.00%	-30.00%		

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0003**	**.0022**	**.0120**	F **.0038**	**.0018**	F **-.0010**	**.0035**	F **.0012**
Stddev	.0003	.0004	.0001	.0010	.0013	.0003	.0009	.0001
%RSD	83.58	17.01	1.035	26.02	73.21	26.99	25.64	11.48
#1	-.0003	.0024	.0121	.0027	.0033	-.0013	.0025	.0010
#2	-.0001	.0018	.0120	.0041	.0010	-.0007	.0041	.0012
#3	-.0006	.0024	.0119	.0046	.0010	-.0010	.0041	.0013
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Fail
Value	.0020			.0030		.0025		.0030
Range	-30.00%			20.00%		-30.00%		-30.00%

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1118**	**1.191**	**.0005**	F **.1390**	**2.264**	**1.152**	F **.0005**	**-.0000**
Stddev	.0072	.013	.0042	.0100	.040	.006	.0003	.0001
%RSD	6.445	1.110	816.2	7.186	1.779	.5486	61.35	148.0
#1	.1199	1.186	.0020	.1470	2.249	1.155	.0006	-.0001
#2	.1097	1.182	-.0042	.1278	2.233	1.156	.0001	-.0001
#3	.1059	1.207	.0038	.1423	2.309	1.144	.0007	.0000
Check ?	Chk Pass	Chk Pass	None	Chk Fail	Chk Pass	Chk Pass	Chk Fail	None
Value				.1000			.0100	
Range				30.00%			-30.00%	

Zoom In Zoom Out

Sample Name: crid Acquired: 4/18/2019 12:03:38 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0027**	**-.0004**	**-.0000**	**-.0003**	F **.0002**	F **.0000**	F **-.0001**	F **-.0004**
Stddev	.0006	.0002	.0000	.0001	.0004	.0001	.0019	.0012
%RSD	23.04	61.54	112.7	56.80	211.3	397.2	2049.	278.7
#1	.0035	-.0004	-.0001	-.0003	-.0003	.0001	-.0014	.0009
#2	.0024	-.0001	-.0001	-.0004	.0004	.0000	.0020	-.0016
#3	.0024	-.0006	.0000	-.0001	.0005	-.0000	-.0009	-.0006
Check ?	None	None	None	None	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value					.0040	.0040	.0040	.0040
Range					-30.00%	-30.00%	-30.00%	-30.00%

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	F **.0017**	**.0028**
Stddev	.0020	.0002
%RSD	114.8	8.649
#1	-.0002	.0025
#2	.0016	.0028
#3	.0037	.0030
Check ?	Chk Fail	Chk Pass
Value	.0040	
Range	-30.00%	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98676.**	**5004.2**	**3702.4**	**8300.4**
Stddev	44.	32.1	5.8	8.5
%RSD	.04448	.64197	.15601	.10220
#1	98639.	5032.7	3697.6	8296.7
#2	98665.	5010.6	3700.7	8294.4
#3	98725.	4969.4	3708.8	8310.1

Zoom In Zoom Out

Sample Name: icsa Acquired: 4/18/2019 12:09:09 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0002**	**-.0000**	**-.0012**	**.0006**	**-.0007**	**.0025**	**-.0006**	**-.0001**
Stddev	.0003	.0001	.0001	.0005	.0002	.0006	.0000	.0003	.0002
%RSD	90.98	25.80	3325.	40.69	32.69	87.82	1.065	51.39	346.0
#1	-.0007	.0002	-.0001	-.0018	.0004	-.0010	.0025	-.0009	.0001
#2	-.0001	.0003	-.0000	-.0008	.0007	.0000	.0025	-.0006	-.0001
#3	-.0003	.0002	.0001	-.0011	.0009	-.0011	.0025	-.0003	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**-.0015**	**.0009**	**-.0005**	**.0006**	**.0027**	**-.0026**	**519.4**	**390.1**
Stddev	.0003	.0001	.0027	.0010	.0025	.0049	.0019	.1	.1
%RSD	33.28	5.460	298.6	219.0	453.6	185.1	74.29	.0187	.0332
#1	.0009	-.0014	.0029	-.0014	-.0003	-.0030	-.0037	519.4	390.2
#2	.0005	-.0016	.0020	.0007	.0034	.0059	-.0004	519.5	390.0
#3	.0010	-.0014	-.0022	-.0007	-.0014	.0051	-.0038	519.4	390.0
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**191.7**	**506.4**	**-.3363**	**.0018**	**-.0046**	**-.0019**	**-.0141**	**-.0022**	**-.0027**
Stddev	.2	1.7	.0426	.0095	.0006	.0002	.0002	.0012	.0002
%RSD	.1292	.3410	12.67	511.2	14.13	12.20	1.382	54.30	6.888
#1	191.7	507.7	-.3805	.0050	-.0041	-.0017	-.0143	-.0035	-.0025
#2	191.9	507.1	-.3331	-.0088	-.0053	-.0022	-.0141	-.0021	-.0028
#3	191.4	504.5	-.2954	.0093	-.0043	-.0020	-.0139	-.0011	-.0028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: icsa Acquired: 4/18/2019 12:09:09 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0009**	**.0084**	**-.0014**	**-.0307**	**.0088**	**-.0074**	**.0027**
Stddev	.0003	.0013	.0002	.0048	.0018	.0007	.0015
%RSD	32.46	15.04	11.15	15.69	20.73	9.239	53.98
#1	-.0007	.0079	-.0013	-.0358	.0068	-.0081	.0012
#2	-.0013	.0074	-.0016	-.0301	.0102	-.0068	.0028
#3	-.0009	.0098	-.0015	-.0262	.0096	-.0074	.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**87110.**	**4828.4**	**3324.1**	**6607.5**
Stddev	271.	27.0	3.7	13.0
%RSD	.31107	.55931	.11108	.19626
#1	86937.	4835.6	3321.5	6605.1
#2	86970.	4798.6	3322.6	6595.9
#3	87422.	4851.2	3328.4	6621.5

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/18/2019 12:14:30 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5206**	**.5078**	**1.031**	**.4926**	**.4850**	**.5084**	**.5016**	**.9846**	**1.109**
Stddev	.0010	.0004	.004	.0016	.0012	.0010	.0005	.0026	.001
%RSD	.2002	.0735	.3806	.3260	.2417	.1920	.1066	.2681	.0848
#1	.5210	.5081	1.035	.4945	.4863	.5090	.5012	.9870	1.109
#2	.5194	.5079	1.030	.4919	.4846	.5089	.5022	.9849	1.110
#3	.5214	.5074	1.027	.4915	.4841	.5072	.5013	.9818	1.108
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4952**	**.9503**	**1.080**	**.9834**	**.9748**	**1.063**	**1.094**	**518.4**	**389.1**
Stddev	.0007	.0024	.005	.0050	.0036	.003	.002	.4	.7
%RSD	.1509	.2475	.5033	.5120	.3708	.2831	.1614	.0706	.1764
#1	.4953	.9527	1.086	.9889	.9775	1.064	1.095	518.1	388.6
#2	.4959	.9501	1.080	.9791	.9761	1.065	1.092	518.3	388.7
#3	.4944	.9480	1.075	.9821	.9707	1.060	1.095	518.8	389.9
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**197.4**	**510.6**	**-.4083**	**.0211**	**.4812**	**.4867**	**.5148**	**.4752**	**.5214**
Stddev	.5	.9	.0284	.0010	.0020	.0005	.0041	.0017	.0010
%RSD	.2359	.1835	6.953	4.669	.4235	.1085	.8024	.3677	.1831
#1	197.1	510.3	-.4091	.0203	.4827	.4871	.5190	.4769	.5212
#2	197.2	509.8	-.3795	.0222	.4821	.4869	.5144	.4753	.5205
#3	197.9	511.6	-.4362	.0210	.4789	.4861	.5108	.4734	.5224
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/18/2019 12:14:30 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5008**	**.4911**	**.4881**	**.4898**	**.5329**	**.5290**	**.5241**
Stddev	.0004	.0008	.0012	.0040	.0015	.0019	.0013
%RSD	.0858	.1617	.2511	.8108	.2871	.3644	.2526
#1	.5006	.4915	.4888	.4856	.5346	.5293	.5236
#2	.5013	.4902	.4888	.4904	.5318	.5269	.5256
#3	.5005	.4916	.4867	.4934	.5323	.5307	.5231
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**86968.**	**4837.6**	**3313.8**	**6611.3**
Stddev	100.	18.7	8.7	19.0
%RSD	.11546	.38744	.26160	.28784
#1	87011.	4853.8	3304.5	6593.7
#2	86854.	4842.0	3315.3	6608.7
#3	87041.	4817.1	3321.6	6631.5

Zoom In Zoom Out

Sample Name: hstd 7 Acquired: 4/18/2019 12:19:32 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.265**	**8.322**	**7.953**	**8.108**	**8.319**	**8.250**	**8.068**	**8.019**	**.6705**
Stddev	.025	.016	.012	.008	.038	.028	.051	.006	.0022
%RSD	.3010	.1888	.1553	.0946	.4582	.3398	.6301	.0761	.3269
#1	8.294	8.335	7.946	8.106	8.362	8.281	8.106	8.016	.6728
#2	8.251	8.326	7.968	8.116	8.305	8.238	8.087	8.026	.6704
#3	8.250	8.304	7.946	8.101	8.290	8.229	8.010	8.015	.6684
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.235**	**8.338**	**8.340**	**8.359**	**8.175**	**8.255**	**8.527**	**.1125**	**-.1372**
Stddev	.021	.023	.005	.026	.013	.020	.012	.0043	.0081
%RSD	.2546	.2758	.0629	.3123	.1564	.2436	.1405	3.787	5.870
#1	8.259	8.317	8.335	8.359	8.164	8.233	8.524	.1131	-.1406
#2	8.227	8.362	8.340	8.385	8.189	8.272	8.517	.1164	-.1280
#3	8.220	8.335	8.345	8.333	8.171	8.261	8.540	.1079	-.1429
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0309**	**-.0383**	**.2285**	**.0655**	**8.275**	**8.539**	**26.13**	**8.736**	**8.285**
Stddev	.0053	.0205	.0186	.0125	.013	.010	.06	.027	.016
%RSD	17.17	53.46	8.125	19.10	.1589	.1213	.2248	.3063	.1872
#1	.0367	-.0617	.2334	.0642	8.264	8.528	26.07	8.716	8.303
#2	.0263	-.0235	.2079	.0787	8.271	8.548	26.16	8.766	8.276
#3	.0296	-.0298	.2441	.0537	8.289	8.543	26.18	8.725	8.276
Check ?	None	None	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: hstd 7 Acquired: 4/18/2019 12:19:32 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.394**	**8.717**	**8.162**	**105.3**	**8.678**	**7.963**	**8.087**
Stddev	.031	.016	.026	.3	.010	.037	.022
%RSD	.3649	.1799	.3166	.2403	.1182	.4597	.2687
#1	8.428	8.700	8.181	105.2	8.678	8.005	8.084
#2	8.387	8.731	8.171	105.6	8.668	7.935	8.110
#3	8.368	8.719	8.132	105.1	8.689	7.949	8.067
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**95673.**	**5032.2**	**3616.1**	**8017.6**
Stddev	322.	24.0	5.6	6.3
%RSD	.33625	.47776	.15552	.07907
#1	95323.	5045.6	3622.5	8019.4
#2	95739.	5004.4	3612.1	8010.5
#3	95956.	5046.5	3613.7	8022.8

Zoom In Zoom Out

Sample Name: hstd Acquired: 4/18/2019 12:24:53 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0009**	**.0002**	**-.0012**	**.0010**	**-.0001**	**.0029**	**.0002**	**.0172**
Stddev	.0002	.0002	.0001	.0005	.0005	.0002	.0001	.0001	.0002
%RSD	35140.	24.75	77.70	38.28	44.53	385.3	3.069	62.95	1.352
#1	-.0002	.0012	.0002	-.0009	.0016	.0001	.0029	.0003	.0169
#2	-.0000	.0007	.0000	-.0018	.0007	.0000	.0029	.0001	.0174
#3	.0002	.0009	.0003	-.0010	.0009	-.0003	.0028	.0003	.0171
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0017**	**.0042**	**.0004**	**-.0025**	**.0011**	**.0016**	**-.0015**	**325.6**	**207.3**
Stddev	.0001	.0003	.0030	.0012	.0011	.0015	.0008	.6	.3
%RSD	8.107	6.002	726.1	47.71	104.7	92.34	53.44	.1904	.1508
#1	.0018	.0045	-.0030	-.0036	.0024	.0000	-.0019	325.9	207.5
#2	.0019	.0040	.0016	-.0012	.0004	.0019	-.0006	326.0	207.4
#3	.0016	.0041	.0027	-.0028	.0004	.0029	-.0021	324.9	206.9
Check ?	None	None	None	None	None	None	None	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**203.0**	**314.9**	**208.6**	**208.0**	**-.0011**	**.0003**	**-.0041**	**-.0015**	**-.0014**
Stddev	.4	.2	.8	.6	.0014	.0001	.0011	.0004	.0001
%RSD	.1973	.0790	.4071	.2745	123.5	21.47	27.76	30.44	9.039
#1	203.3	315.0	209.3	208.4	-.0000	.0004	-.0041	-.0012	-.0013
#2	203.1	315.0	208.8	208.4	-.0027	.0003	-.0030	-.0020	-.0014
#3	202.5	314.6	207.7	207.4	-.0007	.0003	-.0052	-.0012	-.0016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None	None	None	None
Value									
Range									

Zoom In Zoom Out

Sample Name: hstd Acquired: 4/18/2019 12:24:53 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**.0079**	**-.0010**	**-.0154**	**.0092**	**.0199**	**.0082**
Stddev	.0001	.0003	.0002	.0033	.0022	.0018	.0013
%RSD	11.93	3.684	16.84	21.55	23.33	8.942	15.61
#1	-.0007	.0082	-.0009	-.0142	.0096	.0199	.0089
#2	-.0006	.0077	-.0009	-.0129	.0069	.0181	.0091
#3	-.0008	.0077	-.0012	-.0192	.0112	.0217	.0068
Check ?	None	None	None	None	None	None	None
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**87490.**	**4829.6**	**3306.4**	**6573.4**
Stddev	214.	12.4	2.8	7.1
%RSD	.24449	.25578	.08361	.10767
#1	87736.	4836.3	3307.3	6577.4
#2	87380.	4815.3	3303.4	6565.2
#3	87353.	4837.1	3308.7	6577.5

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/18/2019 12:30:19 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**-.0002**	**-.0003**	**.0003**	**-.0006**	**.0067**	**-.0000**	**.0002**
Stddev	.0001	.0001	.0001	.0000	.0010	.0201	.0000	.0001
%RSD	14.88	34.36	21.91	15.01	159.3	301.2	194.2	40.40
#1	-.0006	-.0002	-.0003	.0003	-.0018	.0298	.0000	.0001
#2	-.0007	-.0002	-.0002	.0003	-.0003	-.0048	-.0000	.0002
#3	-.0007	-.0003	-.0004	.0003	.0001	-.0050	-.0001	.0003

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0083**	**.0007**	**-.0001**	**.0021**	**.0009**	**.0005**	**-.0019**	**.0023**
Stddev	.0109	.0007	.0000	.0004	.0003	.0003	.0005	.0002
%RSD	131.7	98.91	16.79	17.72	30.91	65.23	28.86	8.435
#1	-.0209	.0014	-.0001	.0024	.0012	.0003	-.0025	.0022
#2	-.0021	.0002	-.0001	.0023	.0010	.0008	-.0016	.0026
#3	-.0019	.0004	-.0001	.0017	.0006	.0003	-.0015	.0023

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0042**	**.0026**	**-.0014**	**.0212**	**.0550**	**-.0072**	**.0012**	**-.0001**
Stddev	.0053	.0012	.0042	.0178	.0211	.0056	.0004	.0001
%RSD	127.8	44.59	302.8	83.64	38.43	78.33	33.38	79.72
#1	.0093	.0013	-.0062	.0255	.0755	-.0073	.0015	-.0003
#2	.0045	.0033	.0009	.0017	.0333	-.0128	.0007	-.0001
#3	-.0013	.0032	.0012	.0365	.0561	-.0015	.0013	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0045**	**-.0007**	**-.0000**	**-.0004**	**-.0012**	**-.0007**	**.0082**	**-.0000**
Stddev	.0003	.0002	.0000	.0003	.0002	.0015	.0010	.0007
%RSD	7.528	35.26	168.3	75.33	15.42	212.0	12.19	23600.
#1	-.0048	-.0010	-.0000	-.0008	-.0010	-.0024	.0076	.0007
#2	-.0047	-.0005	.0000	-.0001	-.0012	.0002	.0093	.0001
#3	-.0041	-.0006	-.0000	-.0004	-.0013	.0001	.0077	-.0008

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/18/2019 12:30:19 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0004**	**-.0070**
Stddev	.0007	.0007
%RSD	180.2	10.65
#1	.0004	-.0079
#2	.0012	-.0066
#3	-.0003	-.0065

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	*****	**8740.8**	**10859.**	**23883.**
Stddev	-----	44.9	15.	36.
%RSD	-----	.51395	.13607	.15069
#1	-----	8760.8	10860.	23887.
#2	243660.	8689.4	10844.	23845.
#3	246730.	8772.3	10873.	23917.

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/18/2019 12:35:49 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**-.0002**	**-.0002**	**.0002**	**.0001**	W **-.0060**	**-.0001**	**.0003**
Stddev	.0004	.0002	.0001	.0001	.0002	.0013	.0000	.0001
%RSD	48.58	88.99	31.98	46.16	334.3	20.92	43.46	42.03
#1	-.0008	-.0000	-.0002	.0001	-.0001	-.0075	-.0001	.0001
#2	-.0004	-.0003	-.0002	.0003	.0002	-.0055	-.0001	.0004
#3	-.0011	-.0001	-.0003	.0003	-.0000	-.0051	-.0001	.0003

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0014**	**.0003**	**-.0001**	**.0020**	**.0012**	**-.0001**	**-.0015**	**.0021**
Stddev	.0007	.0001	.0001	.0001	.0001	.0002	.0002	.0002
%RSD	49.54	29.43	64.88	7.445	8.159	164.7	13.10	10.44
#1	-.0006	.0003	-.0001	.0020	.0011	-.0001	-.0014	.0023
#2	-.0017	.0002	-.0001	.0022	.0012	-.0003	-.0014	.0022
#3	-.0020	.0003	-.0002	.0019	.0013	.0000	-.0018	.0019

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0055**	**.0044**	**.0005**	**.0136**	**-.0172**	**-.0083**	**.0007**	**-.0001**
Stddev	.0040	.0010	.0026	.0222	.0296	.0037	.0002	.0002
%RSD	72.27	23.08	509.6	162.9	172.2	44.93	27.23	110.5
#1	.0015	.0034	-.0002	-.0113	.0099	-.0117	.0008	.0000
#2	.0095	.0055	.0034	.0313	-.0488	-.0043	.0007	-.0002
#3	.0055	.0043	-.0016	.0209	-.0127	-.0089	.0005	-.0003

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0053**	**-.0007**	**-.0000**	**-.0001**	**-.0014**	**.0002**	**.0089**	**.0005**
Stddev	.0003	.0002	.0001	.0000	.0002	.0001	.0005	.0012
%RSD	6.337	21.27	188.8	1.105	16.55	61.03	5.757	246.0
#1	-.0057	-.0009	.0000	-.0001	-.0015	.0003	.0094	.0012
#2	-.0050	-.0008	-.0001	-.0001	-.0011	.0002	.0085	-.0009
#3	-.0052	-.0006	.0000	-.0001	-.0016	.0001	.0087	.0012

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/18/2019 12:35:49 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0000**	**-.0080**
Stddev	.0014	.0003
%RSD	9737.	3.184
#1	.0011	-.0082
#2	.0005	-.0077
#3	-.0016	-.0079

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	*****	**8804.7**	**10922.**	**24002.**
Stddev	-----	73.1	82.	172.
%RSD	-----	.83028	.75206	.71651
#1	-----	8744.1	11017.	24200.
#2	253480.	8885.8	10874.	23911.
#3	244060.	8784.1	10876.	23895.

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 12:41:20 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.087**	**2.103**	**2.059**	**2.054**	**2.047**	**2.006**	**2.070**	**2.065**	**.2530**
Stddev	.006	.006	.005	.004	.007	.003	.004	.006	.0012
%RSD	.3016	.2884	.2329	.2160	.3449	.1232	.2022	.2749	.4802
#1	2.094	2.110	2.064	2.059	2.048	2.007	2.071	2.072	.2531
#2	2.085	2.099	2.059	2.053	2.039	2.004	2.066	2.064	.2517
#3	2.082	2.100	2.054	2.051	2.053	2.009	2.074	2.060	.2541
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.039**	**2.066**	**2.039**	**2.120**	**2.073**	**2.070**	**2.056**	**41.46**	**42.16**
Stddev	.005	.008	.003	.004	.006	.001	.006	.20	.15
%RSD	.2333	.3788	.1443	.1965	.3133	.0631	.3073	.4759	.3586
#1	2.040	2.075	2.042	2.124	2.081	2.071	2.060	41.62	42.29
#2	2.033	2.064	2.038	2.120	2.071	2.071	2.059	41.52	42.20
#3	2.042	2.059	2.036	2.115	2.069	2.069	2.049	41.24	41.99
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**42.44**	**41.67**	**41.43**	**41.97**	**2.106**	**2.063**	**5.272**	**2.078**	**2.098**
Stddev	.09	.22	.17	.11	.005	.005	.012	.008	.008
%RSD	.2061	.5398	.4108	.2636	.2616	.2293	.2219	.3660	.4006
#1	42.48	41.84	41.62	42.09	2.111	2.068	5.284	2.087	2.108
#2	42.51	41.74	41.38	41.97	2.108	2.062	5.272	2.074	2.094
#3	42.34	41.41	41.30	41.87	2.100	2.059	5.261	2.073	2.093
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 12:41:20 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.015**	**2.034**	**2.016**	**2.090**	**2.098**	**2.043**	**2.068**
Stddev	.002	.004	.004	.001	.005	.007	.002
%RSD	.1190	.1749	.2041	.0476	.2277	.3423	.1021
#1	2.016	2.038	2.018	2.089	2.103	2.047	2.067
#2	2.012	2.030	2.011	2.091	2.098	2.047	2.071
#3	2.016	2.033	2.019	2.091	2.093	2.035	2.068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**93225.**	**4873.5**	**3542.8**	**7390.5**
Stddev	334.	9.1	8.7	14.9
%RSD	.35804	.18630	.24502	.20151
#1	93060.	4863.1	3534.7	7377.4
#2	93610.	4879.4	3541.8	7387.5
#3	93007.	4878.1	3552.0	7406.7

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 12:46:22 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0000**	**-.0001**	**-.0000**	**.0002**	**.0002**	**-.0001**	**.0001**	**-.0003**
Stddev	.0001	.0001	.0001	.0002	.0002	.0001	.0001	.0004	.0002
%RSD	55.92	142.7	93.72	396.9	76.43	31.24	124.6	480.3	76.73
#1	-.0002	-.0001	-.0000	-.0002	.0003	.0001	-.0002	.0001	-.0004
#2	-.0003	-.0000	-.0001	.0000	.0000	.0002	-.0001	-.0003	-.0005
#3	-.0001	-.0000	-.0001	.0001	.0003	.0002	.0000	.0005	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0002**	**.0006**	**-.0000**	**-.0010**	**-.0009**	**-.0004**	**-.0030**	**.0062**
Stddev	.0004	.0001	.0008	.0007	.0004	.0022	.0002	.0019	.0033
%RSD	276.3	64.24	141.3	2330.	41.03	245.2	57.87	64.01	53.11
#1	.0005	.0003	-.0003	.0007	-.0005	-.0034	-.0002	-.0021	.0089
#2	-.0002	.0001	.0012	-.0002	-.0013	.0006	-.0004	-.0052	.0025
#3	.0001	.0001	.0008	-.0006	-.0012	.0002	-.0006	-.0017	.0072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0026**	**.0158**	**.1040**	**.0276**	**.0020**	**.0000**	**.0018**	**-.0001**	**-.0001**
Stddev	.0095	.0209	.0178	.0018	.0005	.0003	.0001	.0005	.0001
%RSD	363.2	132.4	17.16	6.448	23.83	6220.	8.064	395.0	161.9
#1	-.0104	.0358	.0932	.0286	.0021	.0004	.0018	.0003	-.0001
#2	.0080	.0175	.1246	.0255	.0024	-.0002	.0019	-.0000	-.0002
#3	-.0054	-.0059	.0942	.0286	.0015	-.0001	.0016	-.0006	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 12:46:22 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0006**	**.0001**	**.0021**	**-.0008**	F **.0050**	**.0033**
Stddev	.0003	.0009	.0001	.0029	.0008	.0007	.0010
%RSD	100.3	162.0	95.63	133.0	102.1	14.32	29.66
#1	-.0004	.0016	.0001	.0038	-.0005	.0045	.0030
#2	.0000	-.0000	-.0000	.0037	-.0002	.0046	.0026
#3	-.0005	.0001	.0001	-.0011	-.0016	.0058	.0045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						.0040	
Low Limit						-.0040	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98112.**	**4940.3**	**3653.5**	**8240.2**
Stddev	172.	24.0	1.1	3.9
%RSD	.17529	.48542	.03047	.04721
#1	97924.	4917.7	3654.5	8235.8
#2	98148.	4937.7	3652.3	8243.2
#3	98262.	4965.5	3653.8	8241.6

Zoom In Zoom Out

Sample Name: crid Acquired: 4/18/2019 12:51:55 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0046**	**.0011**	**.0011**	**.0031**	F **.0027**	F **.0001**	**.0034**	**.0047**
Stddev	.0001	.0000	.0001	.0001	.0003	.0003	.0000	.0001
%RSD	1.323	2.891	6.194	3.285	9.308	288.1	.9018	2.490
#1	.0045	.0011	.0011	.0031	.0024	-.0003	.0034	.0047
#2	.0046	.0011	.0011	.0031	.0028	.0003	.0034	.0046
#3	.0046	.0011	.0010	.0033	.0029	.0003	.0034	.0048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass	Chk Pass
Value					.0020	.0020		
Range					30.00%	-30.00%		

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0005**	**.0022**	**.0120**	**.0034**	**.0022**	F **-.0015**	**.0045**	F **-.0004**
Stddev	.0004	.0004	.0001	.0004	.0006	.0010	.0013	.0004
%RSD	89.15	16.60	.5855	10.93	28.21	68.84	29.54	114.6
#1	-.0001	.0018	.0120	.0036	.0017	-.0010	.0048	-.0008
#2	-.0003	.0022	.0121	.0037	.0020	-.0008	.0031	-.0002
#3	-.0009	.0025	.0120	.0030	.0029	-.0026	.0057	-.0000
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
Value	.0020					.0025		.0030
Range	-30.00%					-30.00%		-30.00%

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1119**	**1.187**	**-.0022**	**.1284**	**2.316**	**1.177**	F **.0012**	**.0001**
Stddev	.0127	.018	.0075	.0256	.015	.002	.0005	.0002
%RSD	11.38	1.483	337.5	19.94	.6277	.1656	40.03	176.9
#1	.1192	1.169	.0038	.1225	2.326	1.175	.0006	.0001
#2	.0972	1.204	.0001	.1063	2.322	1.179	.0014	.0003
#3	.1192	1.188	-.0107	.1565	2.299	1.177	.0015	-.0001
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Fail	None
Value							.0100	
Range							-30.00%	

Zoom In Zoom Out

Sample Name: crid Acquired: 4/18/2019 12:51:55 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0030**	**-.0005**	**.0001**	**-.0004**	F **.0005**	F **.0001**	F **.0024**	F **-.0007**
Stddev	.0002	.0004	.0001	.0001	.0004	.0000	.0029	.0017
%RSD	6.619	77.16	57.88	37.50	84.05	45.00	121.5	244.8
#1	.0028	-.0001	.0001	-.0002	.0000	.0001	.0040	-.0025
#2	.0032	-.0007	.0002	-.0005	.0009	.0002	.0042	-.0005
#3	.0031	-.0007	.0000	-.0004	.0006	.0001	-.0010	.0009
Check ?	None	None	None	None	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value					.0040	.0040	.0040	.0040
Range					-30.00%	-30.00%	-30.00%	-30.00%

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0035**	**.0041**
Stddev	.0006	.0007
%RSD	16.05	16.83
#1	.0034	.0042
#2	.0030	.0048
#3	.0041	.0034
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98651.**	**5008.3**	**3670.3**	**8236.2**
Stddev	386.	16.9	3.8	5.1
%RSD	.39134	.33671	.10224	.06192
#1	98214.	4999.7	3667.2	8230.6
#2	98798.	5027.8	3669.2	8237.6
#3	98943.	4997.5	3674.4	8240.5

Zoom In Zoom Out

Sample Name: asconf Acquired: 4/18/2019 12:57:27 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0001**	**-.0007**	**-.0008**	**.0001**	**.0001**	**-.0000**	**.0002**	**-.0005**
Stddev	.0001	.0001	.0002	.0001	.0004	.0005	.0001	.0002	.0004
%RSD	1284.	162.4	26.42	14.37	691.6	342.3	105.1	76.43	75.48
#1	-.0000	.0001	-.0006	-.0009	.0005	-.0000	-.0001	.0002	-.0009
#2	-.0001	-.0002	-.0007	-.0007	-.0001	-.0002	-.0000	.0004	-.0003
#3	.0001	-.0002	-.0009	-.0007	-.0003	.0007	-.0000	.0001	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0005**	**5.649**	**-.0003**	**-.0020**	**-.0014**	**.0003**	**-.0019**	**.0053**
Stddev	.0001	.0000	.007	.0002	.0009	.0003	.0014	.0057	.0046
%RSD	26.23	7.486	.1293	83.69	44.22	20.85	514.3	302.5	87.24
#1	.0004	.0005	5.646	-.0006	-.0024	-.0017	-.0011	-.0074	.0000
#2	.0003	.0004	5.657	-.0001	-.0010	-.0014	.0002	.0040	.0071
#3	.0003	.0005	5.643	-.0002	-.0026	-.0011	.0017	-.0023	.0088

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0129**	**.0319**	**.0186**	**.0008**	**.0001**	**.0080**	**-.0002**	**-.0000**
Stddev	.0042	.0266	.0031	.0183	.0004	.0002	.0080	.0001	.0003	.0001
%RSD	898.7	205.7	9.616	98.21	47.03	204.5	.6597	130.6	2889.
#1	.0020	-.0024	.0354	.0095	.0011	.0000	.0079	-.0003	.0001
#2	.0037	.0436	.0306	.0396	.0004	-.0000	.0080	.0001	-.0001
#3	-.0043	-.0025	.0297	.0067	.0008	.0003	.0079	-.0004	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0006**	**-.0001**	**.0006**	**.0007**	**.0003**	**.0026**
Stddev	.0001	.0001	.0001	.0022	.0012	.0012	.0008
%RSD	129.2	10.79	120.0	378.8	180.6	462.3	29.51
#1	.0000	.0007	-.0001	.0025	.0020	.0006	.0035
#2	-.0001	.0006	-.0001	-.0018	-.0003	.0013	.0023
#3	-.0000	.0005	.0000	.0011	.0003	-.0011	.0020

Zoom In Zoom Out

Sample Name: asconf Acquired: 4/18/2019 12:57:27 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98829.**	**5021.5**	**3671.3**	**8283.5**
Stddev	242.	11.3	6.8	18.2
%RSD	.24466	.22434	.18624	.21971
#1	98725.	5029.0	3670.5	8263.1
#2	99106.	5027.0	3664.9	8289.4
#3	98657.	5008.6	3678.5	8298.0

Zoom In Zoom Out

Sample Name: feconf Acquired: 4/18/2019 13:02:58 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0003**	**-.0001**	**-.0007**	**-.0000**	W **-.0029**	**.0037**	**-.0003**
Stddev	.0003	.0000	.0001	.0001	.0006	.0001	.0000	.0002
%RSD	250.2	4.383	73.84	20.42	1809.	2.929	.8599	81.70
#1	-.0005	.0003	-.0000	-.0008	.0002	-.0029	.0037	-.0004
#2	.0000	.0003	-.0001	-.0008	.0005	-.0029	.0038	-.0004
#3	.0001	.0003	-.0002	-.0005	-.0008	-.0030	.0037	-.0000

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0015**	**.0022**	**.0001**	**-.0014**	**-.0002**	F **-.0037**	**.0003**	**-.0013**
Stddev	.0005	.0003	.0001	.0005	.0007	.0003	.0019	.0012
%RSD	29.97	13.81	70.03	37.40	343.6	9.050	602.5	89.47
#1	.0013	.0023	.0001	-.0012	.0002	-.0040	-.0001	-.0023
#2	.0020	.0019	.0001	-.0010	-.0010	-.0033	-.0013	-.0000
#3	.0012	.0025	.0002	-.0020	.0002	-.0036	.0024	-.0016

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0144**	**-.0226**	F **222.9**	**.0451**	**.1088**	**.0095**	**-.0021**	**.0005**
Stddev	.0047	.0018	.4	.0606	.0305	.0080	.0005	.0002
%RSD	32.85	7.770	.1753	134.4	28.09	83.82	25.72	35.23
#1	-.0195	-.0230	223.2	-.0179	.1037	.0169	-.0015	.0007
#2	-.0101	-.0242	223.1	.0503	.1415	.0010	-.0021	.0006
#3	-.0136	-.0207	222.5	.1030	.0810	.0107	-.0026	.0003

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0007**	**-.0004**	**-.0002**	**.0030**	**-.0007**	**-.0038**	**.0110**
Stddev	.0013	.0002	.0001	.0003	.0003	.0001	.0016	.0007
%RSD	243.8	21.88	13.85	200.9	11.45	14.30	42.05	6.615
#1	-.0006	.0008	-.0005	.0002	.0027	-.0007	-.0055	.0102
#2	.0019	.0007	-.0004	-.0003	.0028	-.0009	-.0035	.0116
#3	.0002	.0005	-.0004	-.0004	.0034	-.0007	-.0023	.0112

Zoom In Zoom Out

Sample Name: feconf Acquired: 4/18/2019 13:02:58 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0019**	**.0041**
Stddev	.0013	.0005
%RSD	68.07	12.08
#1	.0028	.0035
#2	.0026	.0043
#3	.0004	.0044

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96350.**	**4966.6**	**3585.8**	**8135.9**
Stddev	102.	7.1	3.2	6.1
%RSD	.10585	.14308	.09029	.07484
#1	96310.	4969.4	3583.8	8134.2
#2	96275.	4958.5	3584.1	8130.8
#3	96466.	4971.8	3589.6	8142.6

Zoom In Zoom Out

Sample Name: crconf Acquired: 4/18/2019 13:08:29 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**-.0001**	**.0012**	F **10.12**	**.0004**	**-.0002**	**.0004**	**.0002**
Stddev	.0002	.0000	.0002	.0003	.01	.0001	.0000	.0001	.0005
%RSD	296.2	54.25	269.1	25.01	.0611	27.98	8.056	23.52	213.1
#1	-.0002	.0000	-.0003	.0010	10.12	.0004	-.0002	.0005	-.0001
#2	.0002	.0001	-.0000	.0015	10.11	.0006	-.0002	.0003	.0009
#3	-.0003	.0001	.0001	.0010	10.12	.0004	-.0002	.0003	-.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0032**	**.0022**	**.0008**	**-.0007**	**.0017**	**-.0003**	**.0014**	**.0160**	**.0167**
Stddev	.0003	.0001	.0010	.0006	.0010	.0014	.0009	.0093	.0052
%RSD	10.18	5.840	115.7	86.90	61.05	391.6	64.50	58.24	30.91
#1	-.0030	.0023	-.0002	-.0006	.0008	-.0010	.0023	.0055	.0221
#2	-.0036	.0020	.0017	-.0002	.0014	.0012	.0005	.0191	.0162
#3	-.0030	.0022	.0010	-.0014	.0028	-.0012	.0014	.0233	.0119

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0105**	**.0059**	**.0214**	**.0032**	**.0007**	**.0005**	**.0067**	**-.0004**	**-.0000**
Stddev	.0028	.0208	.0255	.0099	.0004	.0002	.0009	.0003	.0001
%RSD	26.42	351.1	118.9	310.9	60.16	37.70	13.69	79.77	281.3
#1	.0075	.0115	.0387	-.0033	.0008	.0004	.0072	-.0002	.0001
#2	.0129	-.0171	-.0078	-.0017	.0010	.0007	.0072	-.0008	-.0001
#3	.0113	.0234	.0334	.0146	.0002	.0004	.0056	-.0002	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0038**	**.0061**	**.0049**	**-.0018**	**.0026**	**.0022**
Stddev	.0001	.0002	.0001	.0009	.0016	.0011	.0003
%RSD	19.32	5.665	1.679	18.60	89.08	43.09	13.08
#1	.0004	.0040	.0062	.0047	-.0031	.0018	.0019
#2	.0006	.0039	.0060	.0042	.0000	.0039	.0021
#3	.0006	.0036	.0062	.0060	-.0024	.0021	.0025

Zoom In Zoom Out

Sample Name: crconf Acquired: 4/18/2019 13:08:29 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98531.**	**4989.5**	**3600.4**	**8262.0**
Stddev	94.	53.1	10.0	20.1
%RSD	.09564	1.0639	.27870	.24317
#1	98470.	4996.8	3591.5	8246.6
#2	98639.	4933.2	3598.5	8254.7
#3	98483.	5038.6	3611.3	8284.7

Zoom In Zoom Out

Sample Name: mp14248-mb1conf Acquired: 4/18/2019 13:13:58 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0001**	**-.0000**	**.0002**	**-.0000**	**.0001**	**-.0001**	**.0005**	**-.0006**
Stddev	.0005	.0001	.0000	.0001	.0002	.0003	.0000	.0003	.0002
%RSD	165.6	114.8	386.6	88.28	627.2	329.9	9.663	64.76	31.84
#1	-.0007	-.0002	.0000	.0000	-.0000	.0003	-.0001	.0004	-.0004
#2	.0002	.0000	-.0001	.0003	-.0002	-.0003	-.0001	.0008	-.0006
#3	-.0004	-.0001	.0000	.0001	.0002	.0003	-.0001	.0002	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0011**	**-.0002**	**-.0004**	**-.0010**	**.0001**	**.0002**	**-.0054**	**.0087**
Stddev	.0003	.0001	.0015	.0015	.0004	.0009	.0015	.0125	.0041
%RSD	152.6	12.39	747.0	337.4	39.07	806.1	753.3	231.7	46.73
#1	-.0001	.0013	-.0016	-.0015	-.0011	.0003	.0002	-.0007	.0066
#2	.0004	.0012	-.0003	-.0010	-.0006	-.0008	-.0013	.0041	.0062
#3	.0002	.0010	.0013	.0012	-.0013	.0008	.0017	-.0196	.0134

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0054**	**-.0252**	**-.0106**	**.0138**	**.0006**	**.0001**	**.0093**	**-.0003**	**-.0001**
Stddev	.0088	.0329	.0297	.0022	.0003	.0002	.0014	.0006	.0001
%RSD	161.8	130.8	281.0	16.01	49.93	220.0	15.13	202.6	143.4
#1	.0155	.0121	-.0086	.0139	.0003	.0003	.0083	-.0005	-.0002
#2	.0019	-.0374	-.0412	.0115	.0006	.0002	.0086	-.0007	.0000
#3	-.0010	-.0502	.0181	.0159	.0010	-.0001	.0109	.0004	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0010**	**.0002**	**.0025**	**-.0006**	**.0014**	**.0033**
Stddev	.0002	.0002	.0000	.0018	.0004	.0009	.0004
%RSD	340.6	23.39	12.91	73.29	57.00	67.70	12.47
#1	.0001	.0011	.0002	.0006	-.0009	.0005	.0033
#2	-.0001	.0011	.0002	.0041	-.0007	.0012	.0037
#3	-.0002	.0007	.0002	.0027	-.0002	.0024	.0029

Zoom In Zoom Out

Sample Name: mp14248-mb1conf Acquired: 4/18/2019 13:13:58 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99126.**	**5082.3**	**3673.5**	**8295.5**
Stddev	202.	49.7	4.9	5.6
%RSD	.20420	.97764	.13262	.06727
#1	98895.	5120.7	3673.0	8298.2
#2	99270.	5100.1	3678.6	8299.2
#3	99214.	5026.2	3668.9	8289.1

Zoom In Zoom Out

Sample Name: jc86341-10 7 Acquired: 4/18/2019 13:19:27 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1759**	**-.0001**	**.0610**	**.0012**	**.0022**	**.0115**	**.9286**	**.0017**	**.0003**
Stddev	.0003	.0001	.0005	.0000	.0003	.0002	.0008	.0004	.0002
%RSD	.1671	109.6	.8143	3.425	11.94	1.576	.0867	23.38	73.78
#1	.1758	.0000	.0611	.0012	.0019	.0116	.9282	.0021	.0001
#2	.1757	-.0002	.0615	.0012	.0024	.0113	.9295	.0013	.0006
#3	.1763	-.0002	.0605	.0013	.0023	.0117	.9281	.0017	.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0061**	**.0303**	**.0016**	**-.0003**	**.0127**	**.0589**	**.0011**	**.1495**	**49.37**
Stddev	.0003	.0001	.0015	.0003	.0012	.0014	.0014	.0176	.14
%RSD	4.533	.4021	92.98	77.63	9.617	2.317	129.5	11.77	.2849
#1	.0062	.0304	-.0000	-.0004	.0121	.0595	.0021	.1506	49.51
#2	.0063	.0302	.0020	-.0000	.0141	.0599	.0015	.1665	49.23
#3	.0058	.0303	.0030	-.0006	.0119	.0574	-.0005	.1314	49.37

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.083**	**4.150**	**4.362**	**19.96**	**.0602**	**.0025**	**6.127**	**-.0017**	**.2922**
Stddev	.010	.073	.020	.01	.0008	.0001	.008	.0002	.0004
%RSD	.8962	1.757	.4515	.0752	1.349	3.753	.1242	14.71	.1204
#1	1.072	4.211	4.340	19.97	.0610	.0026	6.124	-.0014	.2926
#2	1.086	4.169	4.370	19.97	.0594	.0024	6.121	-.0019	.2921
#3	1.090	4.069	4.377	19.94	.0603	.0026	6.135	-.0017	.2920

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**.0069**	**-.0001**	**14.14**	**-.0020**	**.0206**	**.0441**
Stddev	.0002	.0006	.0002	.02	.0008	.0012	.0005
%RSD	8.653	8.904	260.4	.1106	39.79	5.715	1.210
#1	.0026	.0074	.0001	14.13	-.0028	.0197	.0439
#2	.0022	.0070	-.0001	14.12	-.0015	.0219	.0437
#3	.0026	.0062	-.0002	14.15	-.0015	.0202	.0447

Zoom In Zoom Out

Sample Name: jc86341-10 7 Acquired: 4/18/2019 13:19:27 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96788.**	**5070.8**	**3560.3**	**7800.6**
Stddev	235.	18.6	6.5	10.2
%RSD	.24253	.36721	.18130	.13114
#1	96665.	5059.6	3563.6	7799.0
#2	96641.	5092.3	3564.5	7811.6
#3	97059.	5060.5	3552.9	7791.3

Zoom In Zoom Out

Sample Name: mp14117-mb1conf Acquired: 4/18/2019 13:24:51 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0000**	**-.0000**	**.0000**	**.0012**	**.0007**	**.0002**	**.0005**	**-.0003**
Stddev	.0003	.0001	.0001	.0001	.0002	.0002	.0000	.0002	.0003
%RSD	699.1	136.8	331.3	1261.	15.06	26.71	8.470	44.01	103.6
#1	.0003	.0000	-.0001	.0002	.0012	.0006	.0002	.0007	.0000
#2	.0001	.0000	-.0001	-.0001	.0014	.0005	.0002	.0003	-.0006
#3	-.0003	.0001	.0001	-.0000	.0011	.0009	.0002	.0005	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0085**	**.0008**	**.0001**	**-.0009**	**-.0010**	**-.0003**	**.0035**	**.0651**
Stddev	.0002	.0001	.0007	.0005	.0003	.0023	.0003	.0092	.0041
%RSD	1169.	.6218	92.14	561.3	34.44	224.4	115.6	264.1	6.275
#1	.0001	.0085	-.0000	.0006	-.0010	-.0016	-.0001	.0033	.0693
#2	-.0002	.0086	.0010	-.0004	-.0006	.0015	-.0006	.0127	.0650
#3	.0002	.0085	.0013	.0001	-.0012	-.0029	-.0001	-.0056	.0611

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0200**	**-.0161**	**.0174**	**.0474**	**.0012**	**.0003**	**.0114**	**.0188**	**.0003**
Stddev	.0093	.0143	.0367	.0066	.0006	.0001	.0005	.0005	.0001
%RSD	46.49	89.08	210.9	13.88	50.92	33.52	4.679	2.727	20.57
#1	.0275	.0004	.0209	.0514	.0009	.0003	.0120	.0193	.0002
#2	.0230	-.0250	.0521	.0398	.0008	.0003	.0114	.0187	.0003
#3	.0096	-.0237	-.0209	.0510	.0018	.0002	.0109	.0183	.0004

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0008**	**.0002**	**.0099**	**.0013**	**.0023**	**.0227**
Stddev	.0002	.0007	.0003	.0001	.0008	.0007	.0011
%RSD	106.5	88.70	226.7	.8790	61.76	31.04	4.881
#1	.0003	.0010	.0003	.0098	.0005	.0032	.0235
#2	.0004	.0014	-.0002	.0099	.0013	.0019	.0232
#3	-.0000	.0000	.0004	.0100	.0021	.0019	.0214

Zoom In Zoom Out

Sample Name: mp14117-mb1conf Acquired: 4/18/2019 13:24:51 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100900.**	**5163.1**	**3707.3**	**8385.7**
Stddev	217.	29.3	3.1	2.1
%RSD	.21514	.56670	.08261	.02479
#1	100950.	5139.6	3708.0	8387.2
#2	100660.	5153.8	3703.9	8386.5
#3	101080.	5195.9	3709.9	8383.3

Zoom In Zoom Out

Sample Name: jc85964-42 Acquired: 4/18/2019 13:30:20 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9686**	**.0039**	**.0605**	**.0691**	**1.453**	**1.686**	**1.610**	**.3365**	**.0370**
Stddev	.0049	.0001	.0001	.0004	.001	.001	.003	.0008	.0004
%RSD	.5075	3.351	.1880	.5526	.0597	.0385	.1928	.2359	1.143
#1	.9742	.0040	.0605	.0692	1.453	1.685	1.613	.3363	.0374
#2	.9651	.0037	.0603	.0687	1.452	1.686	1.607	.3358	.0366
#3	.9664	.0039	.0606	.0694	1.453	1.686	1.609	.3373	.0368

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2162**	**4.473**	**.0800**	**-.0001**	**2.623**	**.0071**	**.0039**	**78.23**	**29.66**
Stddev	.0005	.011	.0021	.0024	.008	.0011	.0009	.30	.09
%RSD	.2231	.2403	2.657	2505.	.3201	15.91	22.43	.3813	.3061
#1	.2166	4.485	.0824	-.0013	2.631	.0075	.0041	78.58	29.76
#2	.2163	4.470	.0792	.0027	2.624	.0058	.0030	78.06	29.59
#3	.2156	4.464	.0784	-.0017	2.615	.0079	.0047	78.07	29.64

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**117.4**	**28.10**	**10.91**	**32.64**	**.0817**	**.0219**	**1.818**	**.3351**	**.4197**
Stddev	.4	.10	.04	.14	.0002	.0001	.004	.0003	.0015
%RSD	.3459	.3418	.3293	.4255	.2864	.5330	.2232	.0750	.3488
#1	117.8	28.14	10.93	32.79	.0818	.0219	1.821	.3352	.4213
#2	117.0	27.99	10.87	32.52	.0817	.0218	1.820	.3353	.4192
#3	117.3	28.16	10.93	32.60	.0814	.0221	1.814	.3348	.4186

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.978**	**.0206**	**.0386**	**45.90**	**.0103**	**.0952**	F **15.38**
Stddev	.002	.0005	.0001	.05	.0007	.0007	.02
%RSD	.0812	2.492	.3183	.1145	6.834	.7873	.1179
#1	1.979	.0200	.0388	45.91	.0097	.0956	15.38
#2	1.976	.0209	.0387	45.94	.0111	.0944	15.39
#3	1.977	.0209	.0385	45.84	.0101	.0957	15.36

Zoom In Zoom Out

Sample Name: jc85964-42 Acquired: 4/18/2019 13:30:20 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99990.**	**5355.9**	**3702.6**	**7638.4**
Stddev	175.	29.0	3.2	6.1
%RSD	.17479	.54119	.08658	.08036
#1	99912.	5338.3	3700.8	7636.6
#2	100190.	5389.4	3700.7	7633.4
#3	99868.	5340.1	3706.3	7645.3

Zoom In Zoom Out

Sample Name: mp14119-mb1conf Acquired: 4/18/2019 13:35:32 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0001**	**-.0000**	**.0001**	**.0011**	**.0003**	**.0001**	**.0006**	**-.0011**
Stddev	.0002	.0001	.0001	.0002	.0001	.0003	.0000	.0001	.0005
%RSD	78.27	134.5	654.4	215.7	9.373	87.12	7.322	11.53	41.39
#1	-.0003	.0000	-.0001	-.0001	.0010	.0006	.0001	.0005	-.0006
#2	-.0000	-.0000	.0001	.0004	.0012	.0002	.0001	.0006	-.0014
#3	-.0002	-.0001	-.0000	.0001	.0011	.0001	.0001	.0005	-.0014

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0097**	**-.0003**	**-.0011**	**-.0007**	**-.0005**	**.0011**	**.0140**	**.0518**
Stddev	.0002	.0001	.0005	.0011	.0006	.0012	.0008	.0033	.0020
%RSD	100.7	1.304	135.3	102.0	86.51	230.1	70.76	23.23	3.787
#1	.0000	.0096	-.0007	-.0024	-.0012	.0008	.0004	.0173	.0495
#2	.0004	.0098	-.0006	-.0008	-.0001	-.0016	.0011	.0107	.0526
#3	.0001	.0095	.0002	-.0002	-.0007	-.0007	.0020	.0141	.0532

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0154**	**-.0069**	**.0333**	**.0705**	**.0015**	**.0004**	**.0136**	**.0235**	**.0003**
Stddev	.0057	.0175	.0039	.0031	.0008	.0001	.0008	.0003	.0002
%RSD	36.99	254.9	11.61	4.384	56.54	25.26	5.701	1.422	51.00
#1	.0119	-.0133	.0319	.0733	.0005	.0003	.0144	.0237	.0004
#2	.0219	.0130	.0304	.0672	.0021	.0005	.0135	.0231	.0005
#3	.0123	-.0203	.0377	.0710	.0018	.0004	.0129	.0236	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0006**	**.0003**	**.0110**	**-.0009**	**.0014**	**.0283**
Stddev	.0000	.0004	.0002	.0033	.0010	.0005	.0005
%RSD	57.46	76.04	87.74	29.68	111.4	39.40	1.677
#1	.0000	.0005	.0002	.0143	-.0001	.0012	.0286
#2	.0000	.0002	.0005	.0078	-.0006	.0009	.0285
#3	.0001	.0011	.0001	.0109	-.0019	.0020	.0277

Zoom In Zoom Out

Sample Name: mp14119-mb1conf Acquired: 4/18/2019 13:35:32 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100220.**	**5145.1**	**3690.5**	**8312.9**
Stddev	200.	20.3	4.4	14.0
%RSD	.19938	.39538	.11966	.16819
#1	99992.	5132.5	3688.2	8301.9
#2	100340.	5168.6	3687.7	8308.1
#3	100340.	5134.3	3695.6	8328.6

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 13:41:05 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.973**	**1.999**	**1.977**	**1.994**	**1.990**	**1.929**	**1.985**	**1.986**	**.2411**
Stddev	.003	.007	.003	.004	.004	.003	.003	.005	.0001
%RSD	.1643	.3389	.1687	.2093	.1955	.1428	.1459	.2589	.0608
#1	1.977	2.007	1.977	1.997	1.990	1.932	1.988	1.989	.2409
#2	1.972	1.996	1.980	1.996	1.986	1.926	1.982	1.988	.2412
#3	1.970	1.994	1.974	1.989	1.994	1.929	1.985	1.980	.2410
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.949**	**2.000**	**1.962**	**2.047**	**2.008**	**1.979**	**1.988**	**39.68**	**40.56**
Stddev	.004	.004	.005	.013	.008	.008	.005	.09	.11
%RSD	.1913	.2148	.2753	.6116	.4154	.4055	.2364	.2370	.2625
#1	1.953	2.004	1.963	2.057	2.016	1.984	1.990	39.76	40.58
#2	1.945	1.996	1.966	2.052	2.009	1.983	1.992	39.70	40.66
#3	1.950	1.998	1.956	2.033	2.000	1.970	1.983	39.57	40.44
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.25**	**39.50**	**39.55**	**40.12**	**2.036**	**1.991**	**5.086**	**2.008**	**2.001**
Stddev	.09	.10	.10	.09	.003	.003	.004	.004	.005
%RSD	.2354	.2431	.2606	.2331	.1473	.1431	.0713	.1812	.2674
#1	40.34	39.60	39.63	40.21	2.036	1.992	5.083	2.012	2.007
#2	40.25	39.48	39.60	40.12	2.039	1.993	5.090	2.008	2.000
#3	40.15	39.41	39.44	40.02	2.033	1.987	5.084	2.004	1.997
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 13:41:05 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.928**	**1.954**	**1.934**	**2.001**	**2.032**	**1.961**	**1.999**
Stddev	.003	.003	.004	.009	.005	.003	.013
%RSD	.1411	.1303	.1900	.4465	.2363	.1537	.6509
#1	1.930	1.951	1.938	2.007	2.033	1.961	2.009
#2	1.925	1.955	1.932	2.005	2.036	1.964	2.005
#3	1.928	1.956	1.931	1.991	2.026	1.958	1.984
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**95178.**	**5026.8**	**3606.3**	**7510.2**
Stddev	270.	30.8	1.2	11.5
%RSD	.28394	.61354	.03387	.15267
#1	95086.	5005.7	3606.7	7506.0
#2	95483.	5012.4	3604.9	7501.5
#3	94967.	5062.2	3607.3	7523.2

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 13:46:08 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0001**	**-.0001**	**.0002**	**.0003**	**-.0003**	**-.0001**	**.0002**	**-.0008**
Stddev	.0003	.0002	.0002	.0002	.0004	.0002	.0000	.0002	.0005
%RSD	97.60	239.8	201.2	132.9	121.0	71.42	37.19	72.62	58.90
#1	-.0005	.0000	.0000	-.0000	.0001	-.0006	-.0001	.0001	-.0013
#2	-.0006	.0000	-.0003	.0004	.0008	-.0003	-.0001	.0001	-.0004
#3	.0000	-.0002	.0000	.0001	.0001	-.0001	-.0002	.0004	-.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0002**	**.0005**	**.0004**	**-.0009**	**-.0005**	**.0018**	**-.0021**	**.0022**
Stddev	.0001	.0001	.0003	.0005	.0011	.0017	.0005	.0004	.0028
%RSD	138.6	28.02	60.07	143.9	131.3	334.7	28.85	21.01	123.3
#1	.0002	.0002	.0002	.0005	.0003	.0015	.0023	-.0022	.0019
#2	-.0000	.0002	.0008	.0008	-.0019	-.0015	.0013	-.0025	.0051
#3	.0001	.0001	.0004	-.0002	-.0009	-.0015	.0017	-.0016	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0032**	**.0139**	**.0401**	**.0221**	**.0005**	**.0001**	**.0009**	**-.0004**	**-.0001**
Stddev	.0063	.0200	.0375	.0079	.0008	.0000	.0009	.0002	.0000
%RSD	195.6	143.4	93.37	35.68	165.1	66.24	105.9	48.17	30.66
#1	.0011	.0369	.0549	.0150	.0010	.0001	.0010	-.0002	-.0002
#2	.0102	.0003	.0679	.0306	.0009	.0001	.0017	-.0004	-.0001
#3	-.0017	.0046	-.0025	.0206	-.0005	.0000	-.0001	-.0005	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 13:46:08 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0004**	**.0001**	**.0018**	**-.0009**	**.0033**	**.0074**
Stddev	.0002	.0008	.0002	.0023	.0002	.0001	.0006
%RSD	69.90	188.2	190.3	122.1	19.20	4.107	8.553
#1	-.0004	.0009	.0000	.0008	-.0010	.0031	.0077
#2	-.0004	-.0005	-.0001	.0044	-.0010	.0033	.0067
#3	-.0001	.0008	.0003	.0003	-.0007	.0034	.0078
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100270.**	**5111.3**	**3703.6**	**8338.3**
Stddev	55.	23.3	7.9	16.7
%RSD	.05467	.45630	.21215	.19981
#1	100310.	5085.2	3707.0	8327.2
#2	100300.	5118.5	3694.7	8330.3
#3	100210.	5130.2	3709.3	8357.5

Zoom In Zoom Out

Sample Name: jc85953-11 Acquired: 4/18/2019 13:51:39 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0188**	**-.0000**	**.0005**	**.0003**	**.0024**	**.0115**	**.0175**	**.0018**	**-.0013**
Stddev	.0002	.0001	.0000	.0000	.0003	.0001	.0000	.0000	.0006
%RSD	1.033	166.4	6.825	5.676	12.84	.9315	.2639	.7405	44.50
#1	.0188	-.0001	.0004	.0003	.0027	.0114	.0175	.0019	-.0019
#2	.0186	-.0001	.0005	.0003	.0022	.0115	.0175	.0019	-.0007
#3	.0189	.0000	.0005	.0003	.0021	.0115	.0174	.0018	-.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0778**	**-.0010**	**-.0006**	**.0001**	**.0001**	**.0003**	**.1404**	**6.532**
Stddev	.0001	.0001	.0003	.0010	.0005	.0024	.0007	.0067	.032
%RSD	26.03	.1037	24.85	158.2	653.9	3359.	256.5	4.747	.4815
#1	.0006	.0778	-.0013	-.0002	.0004	.0023	.0003	.1342	6.509
#2	.0006	.0778	-.0010	.0001	-.0005	-.0025	-.0004	.1397	6.568
#3	.0004	.0777	-.0008	-.0018	.0003	.0004	.0009	.1475	6.519

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1422**	**1.494**	**.8721**	**3.732**	**.0365**	**.0009**	**1.258**	**.0242**	**.0281**
Stddev	.0052	.028	.0222	.016	.0005	.0004	.001	.0003	.0001
%RSD	3.640	1.882	2.544	.4255	1.339	39.73	.0557	1.228	.3384
#1	.1469	1.522	.8977	3.729	.0368	.0008	1.257	.0240	.0282
#2	.1367	1.465	.8610	3.749	.0359	.0013	1.258	.0245	.0282
#3	.1431	1.495	.8577	3.717	.0368	.0006	1.258	.0240	.0280

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0024**	**.0016**	**.0011**	**2.900**	**-.0005**	**.0017**	**.3623**
Stddev	.0001	.0011	.0001	.008	.0008	.0026	.0006
%RSD	3.956	64.86	11.64	.2831	154.1	153.4	.1763
#1	.0023	.0006	.0012	2.892	.0004	.0030	.3618
#2	.0024	.0028	.0010	2.900	-.0007	.0033	.3620
#3	.0025	.0015	.0010	2.909	-.0012	-.0013	.3630

Zoom In Zoom Out

Sample Name: jc85953-11 Acquired: 4/18/2019 13:51:39 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100110.**	**5173.8**	**3650.1**	**8189.7**
Stddev	196.	11.7	2.7	6.3
%RSD	.19531	.22540	.07370	.07665
#1	100170.	5182.1	3651.2	8182.6
#2	100270.	5160.5	3652.1	8194.3
#3	99892.	5179.0	3647.1	8192.2

Zoom In Zoom Out

Sample Name: mp14171-mb1conf Acquired: 4/18/2019 13:57:03 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0001**	**.0019**	**-.0000**	**.0010**	**.0006**	**.0002**	**.0005**	**-.0013**
Stddev	.0003	.0001	.0001	.0003	.0004	.0000	.0000	.0003	.0003
%RSD	333.2	254.5	6.020	1844.	37.76	7.287	24.37	49.93	26.14
#1	-.0001	.0001	.0018	-.0003	.0015	.0006	.0002	.0003	-.0016
#2	-.0001	-.0001	.0020	.0003	.0007	.0006	.0002	.0008	-.0009
#3	.0005	-.0002	.0019	-.0000	.0009	.0006	.0003	.0004	-.0015

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0069**	**.0003**	**.0007**	**-.0009**	**-.0012**	**.0008**	**.0025**	**.0608**
Stddev	.0001	.0001	.0014	.0003	.0004	.0011	.0017	.0071	.0078
%RSD	129.9	1.007	465.3	38.51	38.23	95.87	208.2	280.1	12.90
#1	.0002	.0069	.0008	.0004	-.0011	-.0002	.0024	-.0000	.0529
#2	-.0000	.0069	-.0013	.0009	-.0005	-.0024	.0010	-.0029	.0686
#3	.0001	.0070	.0014	.0008	-.0011	-.0008	-.0009	.0105	.0608

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0257**	**.0252**	**.0163**	**.0559**	**.0011**	**.0003**	**.0100**	**.0229**	**.0004**
Stddev	.0095	.0211	.0399	.0020	.0001	.0000	.0009	.0004	.0001
%RSD	36.92	83.56	245.2	3.630	5.966	10.96	9.219	1.849	34.09
#1	.0286	.0179	.0002	.0552	.0010	.0003	.0099	.0226	.0003
#2	.0334	.0490	-.0131	.0581	.0011	.0003	.0091	.0234	.0004
#3	.0151	.0088	.0617	.0542	.0010	.0002	.0110	.0227	.0005

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0021**	**.0001**	**.0070**	**-.0005**	**.0011**	**.0297**
Stddev	.0004	.0001	.0001	.0014	.0019	.0010	.0009
%RSD	510.3	6.889	85.14	19.66	349.6	91.93	3.087
#1	.0002	.0020	.0002	.0084	-.0022	-.0000	.0300
#2	-.0004	.0020	.0000	.0057	.0015	.0013	.0305
#3	.0004	.0023	.0001	.0068	-.0009	.0019	.0287

Zoom In Zoom Out

Sample Name: mp14171-mb1conf Acquired: 4/18/2019 13:57:03 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101340.**	**5189.9**	**3712.2**	**8377.3**
Stddev	442.	42.2	3.1	5.9
%RSD	.43593	.81362	.08392	.07098
#1	101060.	5203.4	3712.1	8384.0
#2	101850.	5142.6	3715.3	8372.5
#3	101100.	5223.8	3709.1	8375.4

Zoom In Zoom Out

Sample Name: jc86015-21 Acquired: 4/18/2019 14:02:34 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0437**	**-.0000**	**.0085**	**.0010**	**.0120**	**.0316**	**.0499**	**.0038**	**-.0016**
Stddev	.0003	.0001	.0001	.0001	.0003	.0005	.0001	.0002	.0006
%RSD	.7330	480.6	1.363	5.949	2.344	1.615	.1150	5.206	38.38
#1	.0437	.0000	.0085	.0010	.0123	.0321	.0499	.0040	-.0019
#2	.0440	-.0002	.0086	.0010	.0120	.0312	.0498	.0038	-.0009
#3	.0434	.0001	.0084	.0011	.0117	.0313	.0499	.0036	-.0019

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0034**	**.4475**	**.0002**	**-.0017**	**.0110**	**.0009**	**.0050**	**1.214**	**9.941**
Stddev	.0002	.0011	.0003	.0009	.0004	.0014	.0003	.016	.008
%RSD	5.843	.2377	140.3	51.29	3.725	158.5	5.820	1.280	.0807
#1	.0032	.4484	.0003	-.0027	.0107	.0004	.0053	1.196	9.939
#2	.0036	.4477	-.0001	-.0016	.0108	-.0002	.0048	1.224	9.934
#3	.0034	.4464	.0003	-.0009	.0115	.0024	.0048	1.221	9.950

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.278**	**2.724**	**1.084**	**3.870**	**.0125**	**.0020**	**1.355**	**.0281**	**.0447**
Stddev	.006	.047	.025	.004	.0004	.0003	.004	.0002	.0001
%RSD	.1740	1.739	2.296	.1123	3.551	14.74	.2920	.8124	.2339
#1	3.272	2.715	1.073	3.873	.0128	.0022	1.360	.0278	.0448
#2	3.278	2.681	1.065	3.872	.0127	.0021	1.352	.0281	.0446
#3	3.283	2.775	1.112	3.865	.0120	.0016	1.354	.0283	.0448

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0713**	**.0007**	**.0035**	**1.878**	**-.0001**	**.0039**	**.3866**
Stddev	.0002	.0007	.0000	.004	.0009	.0013	.0013
%RSD	.3111	106.1	1.371	.2225	704.2	32.61	.3237
#1	.0710	.0011	.0035	1.881	.0007	.0051	.3858
#2	.0715	-.0002	.0035	1.880	-.0001	.0025	.3881
#3	.0713	.0012	.0036	1.873	-.0010	.0042	.3860

Zoom In Zoom Out

Sample Name: jc86015-21 Acquired: 4/18/2019 14:02:34 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100420.**	**5171.3**	**3664.2**	**8204.7**
Stddev	275.	20.6	1.3	6.4
%RSD	.27393	.39780	.03536	.07817
#1	100540.	5157.6	3663.4	8200.1
#2	100610.	5194.9	3663.4	8212.1
#3	100100.	5161.3	3665.6	8202.0

Zoom In Zoom Out

Sample Name: mp14171-sd1 Acquired: 4/18/2019 14:07:58 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0435**	**-.0005**	**.0080**	**.0013**	**.0139**	**.0296**	**.0507**	**.0048**	**-.0077**
Stddev	.0007	.0004	.0011	.0009	.0009	.0013	.0001	.0008	.0008
%RSD	1.504	70.49	13.25	68.74	6.435	4.417	.1490	16.01	10.09
#1	.0438	-.0001	.0069	.0023	.0134	.0281	.0507	.0042	-.0068
#2	.0427	-.0008	.0091	.0008	.0150	.0302	.0507	.0044	-.0082
#3	.0439	-.0006	.0081	.0007	.0135	.0305	.0506	.0056	-.0081

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0043**	**.4575**	**.0068**	**-.0026**	**.0063**	**-.0031**	**.0093**	**1.274**	**10.59**
Stddev	.0010	.0009	.0009	.0039	.0023	.0033	.0022	.069	.11
%RSD	22.87	.1980	13.01	149.5	37.00	106.3	24.05	5.391	1.037
#1	.0036	.4574	.0078	-.0039	.0039	.0006	.0117	1.222	10.52
#2	.0040	.4584	.0067	-.0056	.0086	-.0058	.0073	1.249	10.53
#3	.0054	.4566	.0060	.0018	.0063	-.0043	.0089	1.352	10.71

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.255**	**2.582**	**1.124**	**3.895**	**.0112**	**.0021**	**1.375**	**.0290**	**.0446**
Stddev	.039	.100	.184	.011	.0008	.0007	.005	.0038	.0004
%RSD	1.191	3.874	16.36	.2905	6.719	33.78	.3594	13.20	.8743
#1	3.230	2.664	1.106	3.887	.0106	.0024	1.371	.0299	.0443
#2	3.237	2.613	.9499	3.892	.0120	.0025	1.374	.0324	.0451
#3	3.300	2.471	1.317	3.908	.0110	.0013	1.380	.0249	.0446

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0717**	**-.0018**	**.0048**	**1.885**	**-.0040**	**.0104**	**.4121**
Stddev	.0016	.0029	.0004	.015	.0102	.0030	.0043
%RSD	2.194	166.4	8.274	.8085	256.4	29.21	1.041
#1	.0710	-.0048	.0047	1.894	-.0158	.0127	.4146
#2	.0706	.0011	.0052	1.894	.0028	.0069	.4071
#3	.0735	-.0017	.0044	1.868	.0010	.0115	.4145

Zoom In Zoom Out

Sample Name: mp14171-sd1 Acquired: 4/18/2019 14:07:58 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100440.**	**5134.7**	**3692.9**	**8265.8**
Stddev	288.	10.9	4.0	10.0
%RSD	.28656	.21282	.10785	.12122
#1	100150.	5147.2	3691.1	8261.8
#2	100450.	5130.2	3697.4	8277.2
#3	100730.	5126.8	3690.1	8258.4

Zoom In Zoom Out

Sample Name: jc86015-30 Acquired: 4/18/2019 14:13:25 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0538**	**-.0002**	**.0125**	**.0012**	**.0129**	**.0355**	**.0578**	**.0049**	**-.0014**
Stddev	.0003	.0001	.0001	.0002	.0002	.0004	.0001	.0002	.0002
%RSD	.5046	43.88	.4336	14.48	1.272	1.137	.1427	3.101	17.13
#1	.0541	-.0002	.0124	.0011	.0128	.0354	.0578	.0049	-.0013
#2	.0536	-.0002	.0125	.0011	.0131	.0351	.0579	.0050	-.0013
#3	.0536	-.0001	.0124	.0014	.0128	.0359	.0578	.0047	-.0017

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040**	**.5516**	**.0013**	**-.0007**	**.0135**	**.0005**	**.0062**	**1.408**	**11.05**
Stddev	.0001	.0000	.0005	.0007	.0004	.0019	.0013	.014	.03
%RSD	1.738	.0081	38.25	103.2	2.884	397.7	21.12	1.020	.2378
#1	.0040	.5516	.0011	-.0010	.0137	-.0015	.0049	1.404	11.03
#2	.0039	.5516	.0009	-.0012	.0136	.0006	.0063	1.397	11.04
#3	.0040	.5517	.0018	.0001	.0130	.0024	.0075	1.424	11.08

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.613**	**3.040**	**.9576**	**3.926**	**.0119**	**.0023**	**1.129**	**.0289**	**.0510**
Stddev	.007	.025	.0374	.011	.0003	.0002	.002	.0004	.0003
%RSD	.1991	.8087	3.906	.2765	2.828	8.299	.1570	1.238	.4920
#1	3.617	3.068	.9761	3.939	.0116	.0023	1.127	.0291	.0511
#2	3.605	3.029	.9822	3.923	.0121	.0026	1.130	.0290	.0507
#3	3.619	3.022	.9146	3.918	.0122	.0022	1.129	.0284	.0511

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0841**	**.0008**	**.0042**	**1.805**	**-.0011**	**.0026**	**.3761**
Stddev	.0003	.0006	.0002	.008	.0021	.0015	.0003
%RSD	.3698	77.02	4.343	.4586	198.1	55.71	.0693
#1	.0843	.0003	.0044	1.806	-.0034	.0043	.3759
#2	.0842	.0015	.0040	1.813	.0007	.0017	.3760
#3	.0837	.0006	.0042	1.797	-.0004	.0019	.3764

Zoom In Zoom Out

Sample Name: jc86015-30 Acquired: 4/18/2019 14:13:25 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99986.**	**5145.0**	**3652.8**	**8174.7**
Stddev	268.	33.3	3.0	4.2
%RSD	.26782	.64768	.08301	.05077
#1	100020.	5178.5	3656.0	8173.9
#2	99702.	5111.9	3652.3	8171.1
#3	100230.	5144.5	3650.0	8179.2

Zoom In Zoom Out

Sample Name: mp14241-mb1conf Acquired: 4/18/2019 14:18:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0001**	**-.0001**	**-.0001**	**-.0001**	**.0004**	**-.0000**	**.0003**	**-.0011**
Stddev	.0003	.0001	.0000	.0003	.0004	.0001	.0001	.0002	.0006
%RSD	140.2	43.03	25.92	503.1	509.6	29.22	362.8	67.72	53.08
#1	-.0004	-.0002	-.0001	-.0003	-.0005	.0004	.0000	.0003	-.0011
#2	.0001	-.0001	-.0001	.0003	.0001	.0005	-.0001	.0001	-.0005
#3	-.0004	-.0001	-.0001	-.0001	.0002	.0003	.0000	.0005	-.0016

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0047**	**.0011**	**.0009**	**-.0003**	**-.0014**	**.0006**	**.0079**	**.0455**
Stddev	.0002	.0003	.0005	.0003	.0007	.0007	.0011	.0064	.0054
%RSD	46.20	5.411	45.60	32.89	228.0	50.66	184.1	80.48	11.86
#1	.0005	.0046	.0011	.0012	-.0009	-.0021	.0018	.0151	.0517
#2	.0003	.0050	.0006	.0009	-.0006	-.0014	.0004	.0031	.0432
#3	.0002	.0046	.0016	.0006	.0005	-.0007	-.0004	.0055	.0417

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0002**	**-.0161**	**.0041**	**-.0000**	**-.0001**	**.0081**	**-.0010**	**.0000**
Stddev	.0045	.0146	.0302	.0093	.0003	.0002	.0003	.0002	.0001
%RSD	1169.	7256.	187.8	226.1	888.6	244.4	4.228	22.05	532.2
#1	-.0047	.0163	.0030	.0077	-.0004	.0000	.0085	-.0010	.0001
#2	.0022	-.0124	-.0510	-.0065	.0001	-.0003	.0080	-.0008	.0000
#3	.0037	-.0033	-.0003	.0112	.0002	.0001	.0078	-.0013	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0008**	**.0001**	**.0063**	**.0012**	**-.0007**	**.0074**
Stddev	.0001	.0008	.0001	.0021	.0005	.0010	.0003
%RSD	28.04	92.53	105.0	34.05	41.48	149.3	4.188
#1	-.0004	-.0000	.0001	.0085	.0011	.0001	.0076
#2	-.0005	-.0009	-.0000	.0042	.0018	-.0003	.0075
#3	-.0003	-.0016	.0001	.0063	.0008	-.0019	.0070

Zoom In Zoom Out

Sample Name: mp14241-mb1conf Acquired: 4/18/2019 14:18:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100820.**	**5163.7**	**3716.3**	**8454.9**
Stddev	251.	34.3	7.0	8.1
%RSD	.24879	.66399	.18733	.09604
#1	100680.	5201.7	3723.4	8463.8
#2	101110.	5135.1	3716.1	8447.9
#3	100680.	5154.4	3709.5	8453.0

Zoom In Zoom Out

Sample Name: mp14241-s2 1 Acquired: 4/18/2019 14:24:22 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.332**	**1.917**	**1.983**	**1.952**	**1.886**	**1.817**	**2.153**	**1.958**	**.0822**
Stddev	.006	.008	.001	.004	.006	.002	.008	.001	.0005
%RSD	.2572	.4064	.0625	.1876	.2946	.1195	.3843	.0724	.5928
#1	2.334	1.908	1.984	1.948	1.891	1.814	2.146	1.956	.0826
#2	2.326	1.918	1.982	1.955	1.880	1.818	2.150	1.959	.0823
#3	2.338	1.923	1.982	1.953	1.886	1.818	2.162	1.959	.0816

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.884**	**1.998**	**2.040**	**2.005**	**1.986**	**2.009**	**2.056**	**24.33**	**941.5**
Stddev	.006	.003	.010	.008	.010	.004	.009	.10	2.3
%RSD	.3180	.1311	.4972	.4000	.5156	.2071	.4614	.4061	.2401
#1	1.878	1.995	2.028	2.001	1.977	2.006	2.048	24.32	938.9
#2	1.883	1.998	2.046	2.014	1.998	2.013	2.066	24.24	942.9
#3	1.890	2.000	2.046	2.000	1.984	2.006	2.054	24.43	942.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.81**	**28.05**	**53.62**	**538.1**	**2.045**	**2.014**	**2.560**	**2.012**	**8.013**
Stddev	.05	.37	.05	.4	.008	.008	.005	.009	.010
%RSD	.2049	1.332	.0900	.0674	.4085	.3827	.2159	.4326	.1299
#1	25.85	27.76	53.63	537.8	2.036	2.008	2.554	2.002	8.021
#2	25.75	27.92	53.56	538.0	2.051	2.023	2.565	2.017	8.002
#3	25.83	28.48	53.65	538.5	2.049	2.012	2.561	2.017	8.017

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.893**	**1.874**	**1.859**	**11.49**	**.0044**	**.0758**	**2.051**
Stddev	.003	.010	.006	.04	.0048	.0009	.015
%RSD	.1390	.5550	.3167	.3719	108.1	1.123	.7266
#1	1.890	1.863	1.854	11.46	.0080	.0748	2.034
#2	1.894	1.884	1.859	11.54	.0063	.0763	2.061
#3	1.895	1.874	1.865	11.47	-.0010	.0762	2.058

Zoom In Zoom Out

Sample Name: mp14241-s2 1 Acquired: 4/18/2019 14:24:22 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**93092.**	**4984.6**	**3429.8**	**7145.2**
Stddev	135.	8.7	.8	8.4
%RSD	.14452	.17380	.02453	.11803
#1	93003.	4991.7	3430.1	7144.1
#2	93247.	4975.0	3428.9	7137.3
#3	93026.	4987.2	3430.5	7154.1

Zoom In Zoom Out

Sample Name: mp14249-mb1conf Acquired: 4/18/2019 14:29:31 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0000**	**-.0001**	**.0001**	**.0013**	**.0005**	**.0003**	**.0008**	**-.0009**
Stddev	.0001	.0001	.0001	.0002	.0003	.0002	.0000	.0001	.0005
%RSD	26.97	214.3	192.1	166.2	20.88	42.04	8.926	17.91	49.61
#1	.0003	-.0001	.0000	.0002	.0016	.0008	.0003	.0007	-.0009
#2	.0002	-.0000	-.0002	-.0001	.0011	.0005	.0004	.0010	-.0005
#3	.0001	.0000	-.0000	.0003	.0012	.0003	.0003	.0007	-.0014

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0084**	**.0003**	**.0004**	**-.0003**	**-.0009**	**.0004**	**-.0027**	**.1651**
Stddev	.0003	.0000	.0006	.0003	.0008	.0015	.0011	.0030	.0075
%RSD	144.7	.3974	190.0	75.85	230.0	166.5	288.3	112.9	4.559
#1	.0001	.0084	-.0003	.0008	-.0011	-.0026	.0014	.0008	.1676
#2	-.0000	.0084	.0009	.0001	-.0005	-.0005	-.0008	-.0045	.1566
#3	.0006	.0084	.0003	.0004	.0005	.0004	.0006	-.0043	.1710

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0252**	**.0200**	**.0808**	**.1238**	**.0004**	**.0004**	**.0110**	**.0268**	**.0005**
Stddev	.0086	.0196	.0120	.0052	.0002	.0001	.0006	.0003	.0001
%RSD	34.16	98.05	14.81	4.160	57.66	17.09	5.045	.9796	23.07
#1	.0328	.0076	.0946	.1183	.0007	.0004	.0113	.0271	.0005
#2	.0159	.0098	.0735	.1247	.0002	.0005	.0103	.0266	.0007
#3	.0269	.0425	.0743	.1285	.0005	.0003	.0113	.0269	.0004

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0006**	**.0004**	**.0167**	**.0002**	**.0018**	**.0336**
Stddev	.0003	.0003	.0001	.0008	.0008	.0017	.0005
%RSD	83.11	50.38	11.72	4.700	395.4	92.67	1.541
#1	.0008	.0008	.0004	.0169	-.0006	.0024	.0341
#2	.0004	.0008	.0005	.0174	.0002	-.0001	.0335
#3	.0001	.0002	.0004	.0158	.0010	.0031	.0331

Zoom In Zoom Out

Sample Name: mp14249-mb1conf Acquired: 4/18/2019 14:29:31 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98037.**	**5136.0**	**3673.9**	**8284.0**
Stddev	3735.	16.6	3.9	3.8
%RSD	3.8100	.32334	.10479	.04643
#1	93726.	5120.2	3669.9	8286.3
#2	100060.	5153.3	3674.2	8279.5
#3	100320.	5134.5	3677.5	8286.1

Zoom In Zoom Out

Sample Name: jc86190-4 7 Acquired: 4/18/2019 14:35:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0800**	**.0013**	**-.0035**	**.5643**	**.0059**	**.3282**	**.0449**	**.0029**	**-.0118**
Stddev	.0138	.0020	.0015	.0035	.0104	.0089	.0024	.0100	.0083
%RSD	17.24	154.2	41.80	.6180	175.2	2.715	5.296	339.3	69.78
#1	.0770	-.0009	-.0050	.5680	.0154	.3244	.0422	-.0079	-.0023
#2	.0680	.0019	-.0020	.5638	.0075	.3219	.0462	.0118	-.0167
#3	.0950	.0029	-.0036	.5611	-.0052	.3384	.0465	.0049	-.0165

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0098**	**.1671**	**-.0142**	**-.0081**	**.0264**	**.0055**	**.0315**	**2.190**	**1.198**
Stddev	.0072	.0018	.0216	.0132	.0215	.0178	.0167	.427	.181
%RSD	73.18	1.107	151.5	162.0	81.50	322.0	52.90	19.48	15.12
#1	.0015	.1665	-.0120	.0045	.0484	.0163	.0286	2.314	1.205
#2	.0139	.1692	.0061	-.0070	.0055	-.0150	.0165	2.540	1.375
#3	.0140	.1656	-.0368	-.0218	.0252	.0152	.0495	1.715	1.013

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.03**	**.3715**	**.2018**	**1.163**	**.0173**	**.0708**	**.8561**	**.1074**	**-.0002**
Stddev	.26	.5978	.2918	.237	.0033	.0025	.0195	.0045	.0016
%RSD	2.351	160.9	144.6	20.40	18.93	3.594	2.273	4.148	799.6
#1	10.76	-.1818	.5371	1.268	.0135	.0737	.8346	.1069	-.0018
#2	11.04	1.006	.0063	.8914	.0189	.0695	.8612	.1033	.0013
#3	11.28	.2907	.0618	1.330	.0194	.0692	.8724	.1122	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4717**	**.0018**	**122.3**	**5.838**	**-.0286**	**.0499**	**.1893**
Stddev	.0015	.0120	.2	.035	.0262	.0313	.0073
%RSD	.3182	654.8	.1716	.5920	91.57	62.76	3.878
#1	.4730	.0145	122.5	5.837	-.0489	.0247	.1904
#2	.4721	-.0095	122.1	5.803	-.0378	.0400	.1961
#3	.4701	.0005	122.3	5.873	.0010	.0850	.1815

Zoom In Zoom Out

Sample Name: jc86190-4 7 Acquired: 4/18/2019 14:35:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	99530.	5131.3	3677.5	8268.7
Stddev	145.	7.6	5.5	3.8
%RSD	.14557	.14887	.15049	.04587
#1	99404.	5127.1	3671.9	8264.3
#2	99688.	5140.1	3683.0	8271.0
#3	99498.	5126.6	3677.4	8270.9

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 14:40:30 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.017	2.043	2.005	2.038	1.998	1.950	2.007	2.020	.2444
Stddev	.003	.003	.004	.004	.003	.001	.003	.004	.0006
%RSD	.1653	.1612	.1867	.1933	.1594	.0618	.1427	.1775	.2327
#1	2.020	2.045	2.007	2.042	1.997	1.950	2.007	2.024	.2450
#2	2.016	2.045	2.008	2.037	1.995	1.948	2.004	2.019	.2441
#3	2.013	2.039	2.001	2.034	2.001	1.951	2.010	2.017	.2440
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.971	2.036	2.020	2.089	2.048	2.040	2.045	39.96	40.91
Stddev	.003	.005	.004	.003	.006	.001	.006	.12	.13
%RSD	.1501	.2535	.2110	.1428	.2929	.0469	.3049	.3023	.3083
#1	1.972	2.042	2.024	2.092	2.055	2.041	2.047	40.07	40.94
#2	1.968	2.035	2.018	2.089	2.043	2.040	2.051	39.83	40.77
#3	1.974	2.032	2.016	2.086	2.047	2.039	2.039	39.97	41.01
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.00	40.28	40.22	40.62	2.083	2.032	5.206	2.052	2.053
Stddev	.10	.12	.08	.06	.004	.004	.009	.005	.003
%RSD	.2407	.2955	.1888	.1462	.2061	.1820	.1700	.2613	.1203
#1	41.08	40.34	40.30	40.63	2.085	2.032	5.203	2.058	2.055
#2	41.04	40.14	40.21	40.56	2.086	2.035	5.216	2.048	2.054
#3	40.89	40.35	40.15	40.68	2.078	2.028	5.199	2.049	2.050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 14:40:30 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.943	1.992	1.956	2.068	2.085	1.986	2.034
Stddev	.000	.004	.001	.002	.008	.004	.002
%RSD	.0176	.2041	.0576	.0740	.3881	.2246	.0874
#1	1.943	1.995	1.955	2.069	2.086	1.990	2.034
#2	1.943	1.993	1.956	2.066	2.093	1.982	2.033
#3	1.943	1.987	1.957	2.067	2.077	1.986	2.036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	95319.	5041.1	3563.4	7419.3
Stddev	221.	19.2	6.2	7.1
%RSD	.23144	.38122	.17412	.09517
#1	95351.	5048.0	3562.0	7411.5
#2	95522.	5055.9	3558.0	7421.4
#3	95085.	5019.4	3570.2	7425.1

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 14:45:33 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	-.0001	-.0001	.0001	-.0001	-.0006	-.0001	.0001	-.0014
Stddev	.0003	.0002	.0001	.0001	.0004	.0001	.0001	.0002	.0005
%RSD	396.4	159.2	94.38	135.6	577.6	14.82	149.1	203.2	34.11
#1	-.0001	-.0003	-.0002	.0001	.0003	-.0006	-.0000	-.0001	-.0016
#2	-.0003	.0000	-.0001	-.0000	-.0003	-.0006	.0000	.0003	-.0009
#3	.0002	-.0001	.0000	.0002	-.0002	-.0005	-.0002	.0002	-.0018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0002	-.0002	-.0002	-.0007	.0003	.0005	-.0045	.0012
Stddev	.0003	.0000	.0007	.0009	.0009	.0009	.0008	.0102	.0015
%RSD	308.5	14.49	360.7	499.5	135.0	339.8	149.6	225.7	121.2
#1	-.0002	.0002	-.0010	-.0009	-.0015	.0004	-.0001	-.0138	.0023
#2	.0002	.0002	.0001	-.0006	-.0007	.0011	.0013	-.0061	.0018
#3	.0003	.0002	.0003	.0009	.0003	-.0007	.0003	.0064	-.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0039	.0125	.0488	.0109	.0006	.0001	.0011	-.0002	.0001
Stddev	.0052	.0510	.0283	.0134	.0003	.0002	.0004	.0006	.0000
%RSD	134.4	409.6	58.11	122.9	49.82	320.0	40.19	251.8	83.44
#1	-.0045	-.0337	.0810	.0242	.0004	-.0000	.0016	-.0003	.0001
#2	.0016	.0038	.0377	.0111	.0010	-.0000	.0008	-.0008	.0000
#3	-.0088	.0672	.0277	-.0026	.0006	.0002	.0009	.0004	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 14:45:33 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0003**	**.0000**	**.0018**	**-.0007**	F **.0042**	**.0074**
Stddev	.0001	.0005	.0001	.0012	.0004	.0004	.0002
%RSD	39.53	173.2	141.3	62.29	52.99	8.712	3.057
#1	-.0002	.0007	.0001	.0031	-.0007	.0045	.0072
#2	-.0003	.0003	.0001	.0017	-.0004	.0038	.0076
#3	-.0001	-.0002	-.0000	.0008	-.0012	.0042	.0076
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						.0040	
Low Limit						-.0040	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100190.**	**5054.7**	**3698.3**	**8307.5**
Stddev	149.	27.0	5.5	10.4
%RSD	.14921	.53407	.14885	.12475
#1	100020.	5047.9	3702.1	8313.4
#2	100240.	5084.5	3700.8	8313.6
#3	100310.	5031.8	3692.0	8295.6

Zoom In Zoom Out

Sample Name: jc86190-5 Acquired: 4/18/2019 14:51:05 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0583**	**-.0029**	**-.0060**	**.5477**	**.0069**	**.2406**	**.0338**	**.0087**	**-.0194**
Stddev	.0014	.0004	.0070	.0211	.0038	.0055	.0009	.0027	.0084
%RSD	2.481	12.95	116.2	3.853	55.17	2.290	2.770	31.38	43.44
#1	.0568	-.0031	-.0005	.5234	.0093	.2344	.0328	.0061	-.0232
#2	.0597	-.0024	-.0139	.5600	.0025	.2449	.0339	.0116	-.0097
#3	.0583	-.0031	-.0036	.5598	.0089	.2426	.0346	.0085	-.0253

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0072**	**.1482**	**.0036**	**.0015**	**.0105**	**.0151**	**.0028**	**2.150**	**.5173**
Stddev	.0051	.0056	.0214	.0043	.0267	.0186	.0140	.066	.0659
%RSD	71.05	3.761	602.5	288.9	254.6	123.1	499.1	3.088	12.73
#1	.0118	.1425	-.0145	.0064	.0404	-.0063	.0177	2.212	.5884
#2	.0081	.1536	.0272	-.0004	.0018	.0273	.0008	2.080	.4584
#3	.0017	.1485	-.0020	-.0015	-.0108	.0244	-.0101	2.157	.5052

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.894**	**-.0509**	**.8282**	**.6847**	**.0137**	**.0609**	**.2617**	**.1255**	**.0029**
Stddev	.177	1.126	1.286	.2278	.0084	.0023	.0222	.0173	.0021
%RSD	1.991	2213.	155.3	33.27	61.23	3.781	8.466	13.78	73.31
#1	8.740	-1.066	.8531	.7418	.0233	.0582	.2491	.1061	.0053
#2	9.088	-.2460	2.102	.8786	.0105	.0622	.2488	.1394	.0012
#3	8.855	1.159	-.4705	.4338	.0074	.0623	.2873	.1309	.0023

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4050**	**-.0326**	**117.9**	**5.251**	**-.0574**	**.0684**	**.1955**
Stddev	.0024	.0104	1.1	.175	.0170	.0146	.0085
%RSD	.5942	32.00	.9027	3.334	29.54	21.32	4.357
#1	.4029	-.0447	117.1	5.055	-.0445	.0588	.2010
#2	.4045	-.0267	117.4	5.305	-.0510	.0612	.1998
#3	.4077	-.0265	119.1	5.392	-.0766	.0852	.1857

Zoom In Zoom Out

Sample Name: jc86190-5 Acquired: 4/18/2019 14:51:05 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99200.**	**5139.2**	**3681.0**	**8276.6**
Stddev	1113.	6.8	5.4	17.0
%RSD	1.1218	.13315	.14601	.20586
#1	97971.	5132.7	3675.3	8260.2
#2	99489.	5146.3	3681.6	8275.4
#3	100140.	5138.6	3686.0	8294.2

Zoom In Zoom Out

Sample Name: jc86302-4 Acquired: 4/18/2019 14:56:33 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.328**	**.0068**	**.0006**	**.0750**	**.2459**	**.2510**	**8.400**	**.1532**	**-.0005**
Stddev	.023	.0001	.0002	.0013	.0037	.0052	.158	.0025	.0008
%RSD	1.726	1.810	38.78	1.697	1.497	2.077	1.882	1.654	143.5
#1	1.305	.0067	.0004	.0736	.2425	.2457	8.247	.1503	.0002
#2	1.328	.0070	.0009	.0754	.2455	.2514	8.391	.1543	-.0013
#3	1.351	.0069	.0006	.0761	.2498	.2561	8.563	.1550	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3562**	**.8997**	**.0594**	**-.0014**	**.3828**	**-.0055**	**-.0009**	**125.3**	**83.06**
Stddev	.0073	.0128	.0014	.0027	.0041	.0048	.0028	2.0	1.29
%RSD	2.048	1.427	2.337	195.8	1.082	86.98	304.0	1.627	1.553
#1	.3480	.8855	.0599	.0015	.3782	-.0089	.0010	123.3	81.67
#2	.3589	.9030	.0606	-.0017	.3842	-.0076	.0003	125.1	83.32
#3	.3618	.9105	.0579	-.0040	.3861	-.0000	-.0041	127.3	84.21

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**185.9**	**33.70**	**10.85**	**6.619**	**.0405**	**.0109**	**2.110**	**.0536**	**.4764**
Stddev	2.9	.59	.13	.124	.0002	.0004	.015	.0021	.0085
%RSD	1.564	1.752	1.223	1.868	.4057	4.124	.7034	3.843	1.779
#1	183.1	33.09	10.70	6.482	.0403	.0103	2.099	.0512	.4683
#2	185.8	33.76	10.89	6.656	.0405	.0112	2.127	.0545	.4756
#3	188.9	34.27	10.96	6.721	.0407	.0111	2.105	.0550	.4852

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.981**	**.0089**	**.0924**	**4.421**	**-.0035**	**.1004**	**2.888**
Stddev	.094	.0020	.0009	.062	.0010	.0026	.043
%RSD	1.885	22.57	.9574	1.408	28.34	2.542	1.479
#1	4.888	.0086	.0914	4.352	-.0029	.0978	2.839
#2	4.980	.0071	.0928	4.437	-.0047	.1029	2.912
#3	5.075	.0111	.0931	4.474	-.0030	.1007	2.913

Zoom In Zoom Out

Sample Name: jc86302-4 Acquired: 4/18/2019 14:56:33 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99192.**	**5247.9**	**3690.2**	**7676.4**
Stddev	383.	14.0	2.1	1.9
%RSD	.38577	.26686	.05592	.02476
#1	99416.	5253.6	3690.0	7676.6
#2	99410.	5231.9	3688.3	7674.5
#3	98750.	5258.1	3692.4	7678.3

Zoom In Zoom Out

Sample Name: jc86330-2 Acquired: 4/18/2019 15:01:48 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3462**	**.0059**	**-.0007**	**.1599**	**.2605**	**.1482**	**2.349**	**.1070**	**-.0051**
Stddev	.0083	.0004	.0004	.0028	.0053	.0038	.047	.0013	.0004
%RSD	2.383	6.663	52.12	1.743	2.019	2.553	1.988	1.194	7.580
#1	.3383	.0055	-.0004	.1567	.2550	.1443	2.302	.1059	-.0055
#2	.3454	.0058	-.0011	.1615	.2612	.1485	2.350	.1067	-.0048
#3	.3548	.0063	-.0006	.1615	.2654	.1519	2.395	.1084	-.0049

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3391**	**.2653**	**.0769**	**-.0037**	**.1767**	**-.0045**	**.0023**	**124.9**	**38.73**
Stddev	.0060	.0046	.0048	.0014	.0017	.0019	.0026	3.1	.94
%RSD	1.765	1.737	6.302	37.80	.9411	42.83	115.6	2.505	2.431
#1	.3323	.2601	.0720	-.0038	.1749	-.0061	.0009	121.7	37.80
#2	.3411	.2666	.0769	-.0051	.1768	-.0052	.0006	124.9	38.72
#3	.3438	.2690	.0817	-.0023	.1782	-.0024	.0053	128.0	39.68

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**298.6**	**8.050**	**8.168**	**2.197**	**.0236**	**.0103**	**2.249**	**.0352**	**.2730**
Stddev	6.9	.247	.207	.059	.0007	.0004	.033	.0014	.0075
%RSD	2.300	3.073	2.541	2.700	3.097	3.510	1.462	3.919	2.754
#1	292.1	7.816	7.946	2.141	.0235	.0102	2.214	.0336	.2655
#2	297.9	8.026	8.201	2.192	.0229	.0106	2.256	.0362	.2730
#3	305.8	8.309	8.357	2.259	.0244	.0099	2.279	.0358	.2805

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.168**	**.0079**	**.0851**	**1.408**	**.0100**	**.0633**	**3.397**
Stddev	.042	.0007	.0022	.021	.0047	.0029	.054
%RSD	1.920	8.281	2.587	1.459	47.47	4.603	1.587
#1	2.126	.0080	.0826	1.386	.0153	.0627	3.337
#2	2.170	.0085	.0859	1.411	.0064	.0664	3.411
#3	2.209	.0072	.0868	1.426	.0081	.0606	3.442

Zoom In Zoom Out

Sample Name: jc86330-2 Acquired: 4/18/2019 15:01:48 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99124.**	**5186.4**	**3679.3**	**7814.7**
Stddev	42.	19.7	1.7	3.3
%RSD	.04255	.37917	.04485	.04232
#1	99169.	5174.0	3677.6	7812.4
#2	99086.	5209.1	3680.9	7813.3
#3	99116.	5176.3	3679.4	7818.5

Zoom In Zoom Out

Sample Name: jc86330-4 Acquired: 4/18/2019 15:07:04 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9070**	**.0138**	**-.0007**	**.1271**	**.2226**	**.1928**	**4.259**	**.2191**	**.0027**
Stddev	.0331	.0006	.0002	.0038	.0066	.0060	.113	.0061	.0008
%RSD	3.651	4.384	31.95	2.955	2.987	3.106	2.662	2.795	30.93
#1	.8739	.0132	-.0005	.1228	.2153	.1870	4.143	.2122	.0018
#2	.9071	.0139	-.0010	.1285	.2243	.1924	4.265	.2212	.0030
#3	.9401	.0144	-.0006	.1299	.2283	.1990	4.369	.2238	.0033

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2905**	**.6802**	**.0107**	**.0019**	**.1677**	**-.0066**	**-.0073**	**193.5**	**21.11**
Stddev	.0080	.0200	.0030	.0016	.0029	.0064	.0033	6.7	.74
%RSD	2.770	2.933	28.44	85.13	1.722	97.03	45.92	3.469	3.521
#1	.2823	.6577	.0142	.0001	.1643	-.0135	-.0111	186.8	20.36
#2	.2906	.6870	.0086	.0032	.1694	-.0054	-.0056	193.4	21.13
#3	.2984	.6958	.0092	.0023	.1693	-.0009	-.0051	200.2	21.84

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**202.3**	**66.21**	**58.96**	**7.409**	**.0111**	**.0026**	**1.775**	**.0301**	**.1180**
Stddev	7.3	2.46	2.36	.285	.0006	.0002	.043	.0013	.0047
%RSD	3.591	3.711	4.010	3.850	5.290	7.231	2.395	4.424	3.997
#1	194.9	63.65	56.61	7.123	.0113	.0024	1.727	.0302	.1134
#2	202.5	66.41	58.93	7.411	.0115	.0027	1.794	.0288	.1177
#3	209.5	68.55	61.34	7.694	.0104	.0027	1.805	.0314	.1228

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.87**	**.0068**	**.0282**	**.3150**	**.0006**	**.3426**	**2.397**
Stddev	.39	.0011	.0010	.0068	.0039	.0108	.075
%RSD	2.651	16.98	3.622	2.146	609.2	3.153	3.117
#1	14.46	.0064	.0270	.3088	-.0038	.3312	2.312
#2	14.89	.0081	.0284	.3140	.0036	.3440	2.424
#3	15.25	.0059	.0290	.3222	.0021	.3527	2.454

Zoom In Zoom Out

Sample Name: jc86330-4 Acquired: 4/18/2019 15:07:04 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98873.**	**5215.4**	**3696.4**	**7560.1**
Stddev	252.	21.3	2.4	7.8
%RSD	.25470	.40843	.06366	.10382
#1	99136.	5196.0	3695.7	7565.6
#2	98849.	5238.2	3699.1	7563.5
#3	98634.	5212.1	3694.6	7551.1

Zoom In Zoom Out

Sample Name: jc86337-4conf Acquired: 4/18/2019 15:12:20 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9173**	**.0020**	**.0079**	**.0430**	**.1427**	**.1766**	**1.654**	**.1429**	**-.0123**
Stddev	.0687	.0005	.0006	.0017	.0068	.0105	.084	.0032	.0002
%RSD	7.486	26.95	7.383	3.935	4.796	5.928	5.100	2.209	1.684
#1	.8485	.0014	.0077	.0415	.1364	.1664	1.570	.1394	-.0125
#2	.9175	.0021	.0086	.0448	.1416	.1761	1.652	.1455	-.0124
#3	.9858	.0025	.0076	.0428	.1500	.1873	1.739	.1440	-.0121

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1303**	**1.251**	**.0409**	**-.0004**	**1.155**	**-.0141**	**.0157**	**46.44**	**348.6**
Stddev	.0073	.022	.0039	.0045	.021	.0096	.0015	3.58	25.3
%RSD	5.632	1.724	9.608	1124.	1.810	68.05	9.851	7.708	7.263
#1	.1245	1.226	.0441	-.0008	1.131	-.0250	.0159	42.82	323.3
#2	.1278	1.263	.0366	.0042	1.170	-.0073	.0172	46.53	348.5
#3	.1385	1.263	.0421	-.0047	1.165	-.0099	.0141	49.98	373.9

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**148.4**	**28.13**	**9.842**	**1.229**	**.0921**	**.0140**	**3.758**	**.0434**	**1.820**
Stddev	11.1	1.86	.726	.146	.0003	.0006	.042	.0040	.137
%RSD	7.453	6.595	7.376	11.91	.3327	4.520	1.106	9.321	7.496
#1	137.5	26.19	9.087	1.133	.0924	.0135	3.710	.0474	1.684
#2	148.2	28.30	9.904	1.157	.0920	.0147	3.783	.0436	1.821
#3	159.6	29.89	10.53	1.397	.0918	.0137	3.782	.0393	1.957

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.194**	**.0123**	**.0802**	**19.40**	**.0124**	**.0412**	**2.166**
Stddev	.112	.0030	.0042	.40	.0084	.0122	.040
%RSD	5.101	24.25	5.293	2.080	67.85	29.56	1.848
#1	2.082	.0150	.0761	18.96	.0091	.0287	2.121
#2	2.193	.0091	.0799	19.51	.0061	.0418	2.183
#3	2.306	.0129	.0845	19.74	.0220	.0530	2.195

Zoom In Zoom Out

Sample Name: jc86337-4conf Acquired: 4/18/2019 15:12:20 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98306.**	**5111.8**	**3628.3**	**7681.6**
Stddev	152.	37.4	3.3	9.0
%RSD	.15489	.73220	.09014	.11772
#1	98130.	5074.9	3628.2	7690.4
#2	98403.	5110.8	3631.7	7681.9
#3	98384.	5149.7	3625.1	7672.3

Zoom In Zoom Out

Sample Name: jc86190-4 Acquired: 4/18/2019 15:17:40 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0814**	**-.0002**	**.0000**	**.5211**	**-.0017**	**.3848**	**.0547**	**.0021**
Stddev	.0005	.0001	.0002	.0152	.0001	.0006	.0002	.0002
%RSD	.5966	50.36	6316.	2.914	2.888	.1517	.3078	11.54
#1	.0814	-.0003	.0001	.5309	-.0018	.3843	.0545	.0023
#2	.0819	-.0001	.0002	.5036	-.0017	.3847	.0547	.0019
#3	.0810	-.0002	-.0003	.5287	-.0017	.3854	.0549	.0021

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1852**	**.0069**	**.1348**	**.0016**	F **-.0052**	**.0308**	**.0131**	**.0041**
Stddev	.0014	.0006	.0046	.0002	.0005	.0008	.0011	.0020
%RSD	.7805	8.151	3.382	9.908	10.48	2.454	8.637	49.01
#1	.1839	.0063	.1374	.0017	-.0054	.0300	.0121	.0024
#2	.1849	.0074	.1295	.0014	-.0046	.0309	.0129	.0063
#3	.1867	.0069	.1374	.0017	-.0056	.0315	.0143	.0035

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.946**	**.2663**	**10.53**	**.0520**	**.2722**	**.8007**	**.0035**	**.0646**
Stddev	.012	.0053	.04	.0286	.0388	.0090	.0009	.0020
%RSD	.6225	1.984	.4010	54.92	14.25	1.119	24.39	3.115
#1	1.954	.2622	10.52	.0755	.2872	.8073	.0033	.0660
#2	1.951	.2722	10.58	.0602	.2282	.7905	.0028	.0623
#3	1.932	.2644	10.50	.0202	.3013	.8042	.0044	.0657

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6681**	**.1002**	**.0009**	**.5496**	W **-.0232**	F **113.5**	**5.451**	**-.0023**
Stddev	.0235	.0032	.0001	.0003	.0008	.1	.177	.0014
%RSD	3.524	3.211	6.806	.0544	3.483	.1032	3.250	60.09
#1	.6835	.1020	.0008	.5496	-.0223	113.6	5.551	-.0013
#2	.6410	.0965	.0009	.5493	-.0239	113.4	5.246	-.0016
#3	.6799	.1022	.0009	.5499	-.0234	113.4	5.555	-.0038

Zoom In Zoom Out

Sample Name: jc86190-4 Acquired: 4/18/2019 15:17:40 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0032**	**-.0081**
Stddev	.0014	.0010
%RSD	44.57	12.97
#1	.0034	-.0086
#2	.0017	-.0069
#3	.0045	-.0088

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**79676.**	**5217.8**	**3736.7**	**8320.4**
Stddev	303.	26.1	104.4	198.6
%RSD	.38051	.50075	2.7950	2.3868
#1	80017.	5247.8	3672.7	8200.2
#2	79576.	5205.3	3857.2	8549.6
#3	79436.	5200.3	3680.2	8211.3

Zoom In Zoom Out

Sample Name: jc86190-5 Acquired: 4/18/2019 15:23:08 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0753**	**-.0001**	**.0001**	**.4704**	W **-.0035**	**.2958**	**.0442**	**.0013**
Stddev	.0009	.0000	.0002	.0004	.0001	.0011	.0001	.0003
%RSD	1.150	72.63	125.5	.0862	3.742	.3587	.1676	22.71
#1	.0746	-.0001	.0001	.4701	-.0034	.2956	.0441	.0010
#2	.0751	-.0000	-.0000	.4709	-.0035	.2969	.0442	.0016
#3	.0763	-.0001	.0003	.4703	-.0036	.2948	.0442	.0012

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1909**	**.0065**	**.1156**	**.0012**	F **-.0056**	**.0276**	**.0133**	**.0023**
Stddev	.0015	.0006	.0002	.0006	.0012	.0008	.0005	.0008
%RSD	.7981	9.827	.1436	53.79	21.73	2.924	3.934	34.94
#1	.1892	.0064	.1155	.0007	-.0049	.0269	.0139	.0016
#2	.1913	.0072	.1154	.0019	-.0050	.0275	.0130	.0031
#3	.1921	.0059	.1158	.0009	-.0070	.0285	.0130	.0021

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.923**	**.2235**	**9.323**	**.0474**	**.1953**	**.6242**	**.0004**	**.0516**
Stddev	.018	.0046	.017	.0411	.0134	.0026	.0007	.0006
%RSD	.9159	2.053	.1778	86.74	6.883	.4130	148.3	1.136
#1	1.907	.2260	9.304	.0830	.1810	.6230	.0007	.0521
#2	1.920	.2182	9.334	.0024	.1970	.6272	-.0003	.0517
#3	1.942	.2264	9.332	.0569	.2078	.6225	.0009	.0510

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1651**	**.1025**	**.0003**	**.4958**	W **-.0242**	F **114.2**	**4.490**	**-.0024**
Stddev	.0009	.0004	.0001	.0004	.0004	.1	.016	.0003
%RSD	.5154	.4308	34.31	.0888	1.733	.1271	.3503	13.13
#1	.1657	.1030	.0003	.4954	-.0247	114.0	4.472	-.0027
#2	.1642	.1025	.0004	.4962	-.0241	114.2	4.498	-.0024
#3	.1656	.1021	.0002	.4959	-.0239	114.3	4.499	-.0021

Zoom In Zoom Out

Sample Name: jc86190-5 Acquired: 4/18/2019 15:23:08 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0027**	W **-.0217**
Stddev	.0007	.0017
%RSD	26.74	7.718
#1	.0021	-.0198
#2	.0035	-.0223
#3	.0025	-.0230

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**79524.**	**5210.3**	**3684.5**	**8204.1**
Stddev	225.	34.0	1.8	7.1
%RSD	.28295	.65199	.04878	.08612
#1	79783.	5218.1	3686.4	8212.2
#2	79377.	5239.7	3682.8	8198.9
#3	79411.	5173.1	3684.4	8201.3

Zoom In Zoom Out

Sample Name: jc86337-4 Acquired: 4/18/2019 15:28:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.049**	**.0024**	**.0061**	**.0331**	**.1331**	**.1726**	**1.545**	**.1139**	**-.0020**
Stddev	.003	.0007	.0008	.0005	.0012	.0030	.001	.0015	.0016
%RSD	.2431	29.73	12.71	1.380	.9079	1.763	.0878	1.315	81.71
#1	1.051	.0025	.0070	.0335	.1325	.1691	1.545	.1154	-.0001
#2	1.046	.0031	.0060	.0326	.1345	.1741	1.546	.1125	-.0028
#3	1.050	.0016	.0055	.0332	.1323	.1746	1.543	.1138	-.0029

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1204**	**1.016**	**.0339**	**-.0002**	**.9397**	**-.0016**	**.0121**	**53.24**	**397.3**
Stddev	.0018	.002	.0053	.0034	.0088	.0025	.0020	.15	1.1
%RSD	1.495	.1508	15.61	1444.	.9402	164.2	16.68	.2784	.2750
#1	.1192	1.014	.0394	-.0041	.9358	-.0018	.0137	53.38	398.5
#2	.1225	1.017	.0334	.0018	.9498	-.0039	.0128	53.09	396.6
#3	.1195	1.016	.0288	.0016	.9334	.0011	.0098	53.25	396.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**168.9**	**31.71**	**11.07**	**1.450**	**.0781**	**.0120**	**3.082**	**.0379**	**2.077**
Stddev	.5	.46	.13	.057	.0039	.0011	.005	.0029	.006
%RSD	.3045	1.452	1.144	3.927	5.052	9.148	.1773	7.753	.3029
#1	169.3	31.35	10.95	1.415	.0778	.0115	3.088	.0357	2.084
#2	168.3	31.56	11.07	1.419	.0821	.0133	3.077	.0412	2.072
#3	169.2	32.23	11.21	1.516	.0743	.0112	3.081	.0367	2.074

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.045**	**.0100**	**.1258**	**15.89**	**.0067**	**.0489**	**1.770**
Stddev	.002	.0032	.0037	.05	.0010	.0033	.006
%RSD	.0969	32.16	2.920	.2938	15.39	6.700	.3371
#1	2.043	.0083	.1295	15.83	.0056	.0522	1.767
#2	2.045	.0080	.1258	15.91	.0070	.0489	1.777
#3	2.047	.0137	.1222	15.92	.0076	.0456	1.767

Zoom In Zoom Out

Sample Name: jc86337-4 Acquired: 4/18/2019 15:28:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98873.**	**5185.4**	**3650.3**	**7781.4**
Stddev	62.	3.3	4.4	5.1
%RSD	.06271	.06410	.11942	.06609
#1	98886.	5183.4	3645.3	7775.5
#2	98927.	5183.5	3652.7	7785.0
#3	98805.	5189.2	3653.0	7783.7

Zoom In Zoom Out

Sample Name: mp14317-b1 Acquired: 4/18/2019 15:33:58 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.964**	**1.986**	**1.930**	**1.973**	**1.960**	**1.910**	**1.957**	**1.947**
Stddev	.004	.005	.004	.003	.003	.001	.000	.002
%RSD	.2107	.2777	.2034	.1261	.1470	.0586	.0070	.0873
#1	1.960	1.980	1.932	1.972	1.963	1.909	1.957	1.948
#2	1.968	1.986	1.933	1.976	1.958	1.911	1.957	1.948
#3	1.966	1.991	1.926	1.972	1.959	1.910	1.957	1.945

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2511**	**1.921**	**1.979**	**2.024**	**2.024**	**1.976**	**1.948**	**2.066**
Stddev	.0006	.001	.006	.004	.007	.004	.004	.005
%RSD	.2244	.0498	.2842	.2141	.3704	.1795	.2029	.2418
#1	.2514	1.921	1.985	2.024	2.031	1.979	1.951	2.065
#2	.2514	1.922	1.978	2.028	2.025	1.977	1.950	2.072
#3	.2505	1.920	1.974	2.020	2.016	1.972	1.944	2.062

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.96**	**25.65**	**25.67**	**24.79**	**24.85**	**25.17**	**1.962**	**2.084**
Stddev	.04	.07	.06	.04	.04	.05	.004	.005
%RSD	.1801	.2829	.2507	.1440	.1474	.2130	.2148	.2249
#1	24.97	25.58	25.61	24.76	24.81	25.12	1.964	2.089
#2	25.01	25.72	25.66	24.83	24.89	25.22	1.964	2.083
#3	24.92	25.64	25.74	24.77	24.86	25.17	1.957	2.080

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1834**	**2.111**	**1.996**	**1.984**	**1.812**	**2.004**	F **-.0823**	**.0003**
Stddev	.0012	.008	.004	.002	.002	.004	.0022	.0008
%RSD	.6747	.3718	.1954	.1098	.0966	.1937	2.618	223.0
#1	.1822	2.118	1.992	1.986	1.814	2.008	-.0823	-.0005
#2	.1833	2.112	1.997	1.982	1.812	2.004	-.0845	.0006
#3	.1847	2.103	2.000	1.983	1.811	2.000	-.0802	.0009

Zoom In Zoom Out

Sample Name: mp14317-b1 Acquired: 4/18/2019 15:33:58 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0015**	**1.947**
Stddev	.0014	.007
%RSD	95.41	.3438
#1	.0031	1.953
#2	.0006	1.948
#3	.0007	1.939

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**97243.**	**5148.8**	**3588.7**	**7615.7**
Stddev	81.	20.9	5.7	8.7
%RSD	.08344	.40573	.16018	.11436
#1	97177.	5152.8	3583.5	7608.8
#2	97334.	5126.2	3587.7	7612.8
#3	97217.	5167.4	3594.9	7625.5

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 15:39:02 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.986**	**2.011**	**1.984**	**2.025**	**1.985**	**1.933**	**1.985**	**2.001**	**.2407**
Stddev	.007	.003	.004	.004	.007	.004	.004	.002	.0009
%RSD	.3373	.1699	.2147	.2234	.3586	.2255	.2158	.1144	.3587
#1	1.987	2.012	1.983	2.022	1.993	1.938	1.990	1.998	.2416
#2	1.993	2.014	1.980	2.023	1.979	1.930	1.982	2.002	.2407
#3	1.980	2.007	1.988	2.030	1.983	1.930	1.983	2.003	.2398
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.947**	**2.014**	**1.999**	**2.068**	**2.034**	**2.014**	**2.032**	**39.52**	**40.47**
Stddev	.003	.002	.000	.012	.003	.002	.001	.08	.07
%RSD	.1632	.1024	.0223	.5757	.1443	.0994	.0532	.2071	.1824
#1	1.950	2.016	2.000	2.056	2.031	2.012	2.032	39.59	40.49
#2	1.945	2.012	1.999	2.070	2.034	2.015	2.033	39.54	40.53
#3	1.945	2.015	1.999	2.079	2.037	2.015	2.031	39.43	40.39
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.44**	**39.50**	**39.70**	**40.20**	**2.067**	**2.014**	**5.167**	**2.030**	**2.024**
Stddev	.07	.29	.16	.08	.003	.003	.006	.003	.005
%RSD	.1709	.7334	.4116	.1984	.1410	.1551	.1262	.1391	.2392
#1	40.46	39.79	39.76	40.24	2.065	2.013	5.166	2.032	2.024
#2	40.49	39.50	39.83	40.25	2.066	2.012	5.162	2.027	2.029
#3	40.36	39.21	39.52	40.11	2.071	2.018	5.174	2.032	2.020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 15:39:02 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.921**	**1.975**	**1.940**	**2.033**	**2.074**	**1.966**	**1.994**
Stddev	.003	.003	.003	.003	.004	.005	.008
%RSD	.1350	.1403	.1546	.1516	.1789	.2476	.3939
#1	1.924	1.978	1.944	2.033	2.070	1.968	1.990
#2	1.920	1.973	1.939	2.030	2.074	1.969	1.989
#3	1.919	1.973	1.938	2.036	2.077	1.960	2.003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96209.**	**5080.9**	**3583.9**	**7453.6**
Stddev	194.	21.0	.9	8.4
%RSD	.20127	.41270	.02641	.11302
#1	96018.	5056.8	3583.0	7463.2
#2	96406.	5095.3	3584.9	7450.3
#3	96203.	5090.5	3583.8	7447.4

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 15:44:05 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0001**	**-.0000**	**.0000**	**.0001**	**-.0003**	**-.0001**	**.0002**	**-.0017**
Stddev	.0002	.0001	.0000	.0003	.0003	.0005	.0001	.0001	.0005
%RSD	939.0	126.1	65.94	1107.	391.1	142.7	72.32	41.08	30.69
#1	-.0001	-.0001	-.0001	-.0000	-.0001	-.0001	-.0002	.0001	-.0019
#2	-.0002	-.0001	-.0000	.0003	.0004	-.0009	-.0000	.0002	-.0022
#3	.0002	.0000	-.0001	-.0002	-.0001	-.0000	-.0001	.0003	-.0011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0001**	**.0006**	**-.0001**	**-.0008**	**-.0010**	**.0006**	**-.0058**	**-.0037**
Stddev	.0001	.0001	.0007	.0011	.0000	.0004	.0005	.0115	.0056
%RSD	1420.	108.3	113.2	911.8	1.414	44.58	74.18	198.4	152.0
#1	.0001	.0002	.0004	-.0008	-.0008	-.0008	.0009	-.0181	-.0024
#2	-.0001	.0000	.0001	-.0007	-.0008	-.0007	.0009	-.0041	.0012
#3	-.0000	.0001	.0014	.0012	-.0008	-.0015	.0001	.0048	-.0098
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0099**	**.0428**	**.0151**	**.0016**	**.0003**	**.0020**	**.0003**	**.0000**
Stddev	.0065	.0149	.0025	.0023	.0000	.0002	.0006	.0002	.0000
%RSD	4284.	150.9	5.854	15.43	1.105	63.44	29.24	79.95	111.1
#1	.0073	-.0229	.0416	.0140	.0016	.0005	.0014	.0004	-.0000
#2	-.0033	.0063	.0456	.0135	.0016	.0003	.0025	.0004	.0001
#3	-.0045	-.0130	.0411	.0177	.0016	.0001	.0023	.0000	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 15:44:05 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0021**	**.0002**	**.0037**	**-.0003**	**.0003**	**.0085**
Stddev	.0003	.0003	.0001	.0028	.0011	.0010	.0006
%RSD	122.3	14.75	44.75	77.19	394.0	351.7	7.128
#1	-.0004	.0018	.0002	.0060	.0005	.0002	.0090
#2	.0001	.0022	.0001	.0005	-.0015	.0013	.0078
#3	-.0004	.0024	.0003	.0046	.0002	-.0007	.0086
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100860.**	**5116.5**	**3701.1**	**8324.7**
Stddev	286.	35.3	5.0	10.9
%RSD	.28311	.68990	.13499	.13130
#1	101010.	5106.2	3695.4	8313.7
#2	101050.	5155.8	3703.4	8324.9
#3	100540.	5087.5	3704.5	8335.6

Zoom In Zoom Out

Sample Name: mp14317-mb1 Acquired: 4/18/2019 15:49:37 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0000**	**.0000**	**.0001**	**.0010**	**.0005**	**.0003**	**.0011**	**-.0015**
Stddev	.0001	.0000	.0002	.0003	.0002	.0003	.0000	.0002	.0003
%RSD	67.90	27.41	2702.	211.7	18.83	67.68	9.661	17.80	18.88
#1	.0002	-.0000	.0002	.0003	.0008	.0005	.0003	.0009	-.0018
#2	.0001	-.0000	-.0001	.0003	.0009	.0008	.0003	.0012	-.0014
#3	.0003	-.0000	-.0001	-.0002	.0011	.0002	.0003	.0013	-.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0099**	**-.0009**	**-.0005**	**-.0001**	**-.0013**	**.0003**	**.0043**	**.0702**
Stddev	.0003	.0001	.0016	.0010	.0010	.0011	.0015	.0114	.0047
%RSD	133.5	.8524	187.5	222.2	1102.	89.78	448.6	263.3	6.623
#1	-.0001	.0100	.0010	-.0009	-.0011	-.0005	.0005	.0175	.0658
#2	.0004	.0099	-.0015	.0007	.0001	-.0007	.0018	-.0019	.0751
#3	.0002	.0099	-.0020	-.0011	.0008	-.0025	-.0012	-.0026	.0699

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0237**	**.0380**	**.0690**	**.0943**	**.0019**	**.0006**	**.0085**	**.0225**	**.0004**
Stddev	.0057	.0069	.0310	.0063	.0003	.0001	.0009	.0008	.0001
%RSD	23.91	18.16	44.85	6.645	17.49	8.462	10.38	3.596	23.21
#1	.0175	.0438	.0560	.1000	.0021	.0006	.0075	.0234	.0006
#2	.0286	.0398	.1043	.0876	.0015	.0007	.0093	.0224	.0004
#3	.0251	.0304	.0467	.0953	.0021	.0006	.0086	.0218	.0004

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0014**	**.0003**	**.0116**	**-.0019**	**.0018**	**.0326**
Stddev	.0001	.0001	.0000	.0037	.0006	.0014	.0007
%RSD	50.87	4.415	13.68	32.26	29.94	78.62	2.053
#1	.0001	.0015	.0003	.0159	-.0022	.0033	.0332
#2	.0003	.0014	.0002	.0091	-.0023	.0004	.0327
#3	.0003	.0014	.0003	.0097	-.0013	.0019	.0319

Zoom In Zoom Out

Sample Name: mp14317-mb1 Acquired: 4/18/2019 15:49:37 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101240.**	**5167.1**	**3687.7**	**8302.1**
Stddev	220.	2.5	1.6	3.7
%RSD	.21745	.04912	.04249	.04494
#1	101500.	5165.3	3686.6	8297.8
#2	101120.	5170.0	3689.5	8304.3
#3	101110.	5166.1	3687.0	8304.3

Zoom In Zoom Out

Sample Name: zrconf Acquired: 4/18/2019 15:55:08 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0064**	**.0001**	**.0000**	**.0002**	**-.0003**	**.0056**	**.0002**	**-.0000**	**.0027**
Stddev	.0004	.0001	.0002	.0001	.0002	.0002	.0001	.0003	.0004
%RSD	5.688	86.54	518.7	39.85	76.88	3.816	21.24	906.5	12.93
#1	.0065	.0001	.0002	.0003	-.0002	.0058	.0003	.0000	.0023
#2	.0060	.0000	-.0002	.0002	-.0006	.0054	.0002	.0002	.0030
#3	.0067	.0001	.0002	.0001	-.0002	.0057	.0002	-.0003	.0029

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0012**	**.0007**	**.0001**	**-.0010**	**-.0018**	**.0008**	**.0022**	**.1674**	**.0151**
Stddev	.0003	.0000	.0001	.0009	.0001	.0005	.0009	.0098	.0023
%RSD	24.89	4.107	98.03	92.88	8.332	66.85	41.08	5.861	15.02
#1	.0009	.0006	.0001	-.0018	-.0017	.0002	.0021	.1744	.0135
#2	.0015	.0007	.0000	-.0000	-.0016	.0011	.0031	.1716	.0177
#3	.0013	.0007	.0001	-.0011	-.0019	.0010	.0013	.1562	.0141

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040**	**.0116**	**.0052**	**.0052**	**.0010**	**-.0001**	**.0030**	**.0079**	**.0006**
Stddev	.0108	.0580	.0233	.0120	.0003	.0001	.0004	.0002	.0001
%RSD	268.4	500.3	451.6	230.1	26.72	39.75	13.02	3.061	26.71
#1	-.0084	-.0348	.0231	-.0057	.0010	-.0001	.0035	.0079	.0006
#2	.0094	.0766	.0136	.0180	.0007	-.0001	.0027	.0082	.0004
#3	.0111	-.0071	-.0212	.0033	.0013	-.0002	.0029	.0077	.0007

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**-.0020**	F **10.75**	**.0041**	**-.0026**	**.0014**	**.0082**
Stddev	.0003	.0004	.01	.0013	.0007	.0013	.0004
%RSD	48.77	21.11	.1294	32.12	28.48	95.74	5.465
#1	.0009	-.0021	10.76	.0036	-.0025	.0012	.0085
#2	.0003	-.0016	10.76	.0031	-.0033	.0002	.0077
#3	.0006	-.0024	10.74	.0056	-.0019	.0028	.0083

Zoom In Zoom Out

Sample Name: zrconf Acquired: 4/18/2019 15:55:08 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99017.**	**5143.5**	**3698.1**	**8307.8**
Stddev	35.	36.5	10.1	13.8
%RSD	.03540	.70952	.27434	.16612
#1	98996.	5130.2	3709.7	8322.6
#2	98998.	5184.8	3690.8	8295.2
#3	99058.	5115.6	3693.9	8305.7

Zoom In Zoom Out

Sample Name: mp14317-s1 Acquired: 4/18/2019 16:00:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.572**	**1.873**	**1.917**	**2.030**	**2.330**	**2.188**	**6.157**	**2.073**	**.2467**
Stddev	.003	.002	.075	.078	.005	.001	.010	.077	.0002
%RSD	.1128	.0962	3.937	3.841	.2051	.0644	.1689	3.710	.0956
#1	2.575	1.875	2.004	2.120	2.331	2.187	6.154	2.162	.2466
#2	2.569	1.871	1.871	1.982	2.335	2.190	6.169	2.026	.2465
#3	2.573	1.873	1.876	1.988	2.325	2.189	6.149	2.031	.2469

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.973**	**3.873**	**2.094**	**1.974**	**2.672**	**1.905**	**1.206**	**113.6**	**46.29**
Stddev	.004	.158	.083	.068	.100	.071	.051	.1	.14
%RSD	.2054	4.078	3.972	3.448	3.722	3.733	4.263	.1052	.3067
#1	1.974	4.055	2.190	2.052	2.786	1.987	1.265	113.7	46.44
#2	1.976	3.772	2.045	1.932	2.607	1.860	1.176	113.5	46.29
#3	1.968	3.792	2.046	1.937	2.622	1.868	1.176	113.6	46.15

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**153.8**	**45.65**	**36.69**	**25.19**	**1.897**	**1.904**	**3.100**	**1.986**	**2.020**
Stddev	.3	.33	.13	.06	.071	.075	.129	.078	.003
%RSD	.2175	.7277	.3414	.2548	3.760	3.946	4.164	3.923	.1259
#1	154.2	45.97	36.83	25.26	1.980	1.991	3.248	2.076	2.023
#2	153.6	45.69	36.67	25.14	1.859	1.860	3.013	1.939	2.018
#3	153.6	45.31	36.58	25.18	1.853	1.862	3.039	1.943	2.020

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.161**	**.9281**	**1.946**	**24.25**	**.0058**	**.1238**	**5.032**
Stddev	.003	.0379	.002	.91	.0011	.0014	.187
%RSD	.0791	4.086	.1109	3.749	19.66	1.122	3.718
#1	4.160	.9719	1.946	25.30	.0050	.1252	5.248
#2	4.164	.9067	1.948	23.72	.0053	.1237	4.916
#3	4.158	.9057	1.944	23.74	.0071	.1224	4.931

Zoom In Zoom Out

Sample Name: mp14317-s1 Acquired: 4/18/2019 16:00:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99799.**	**5412.8**	**3627.9**	**7362.1**
Stddev	312.	31.3	122.0	232.2
%RSD	.31232	.57861	3.3623	3.1538
#1	99819.	5381.1	3487.1	7094.3
#2	99478.	5413.4	3702.2	7506.6
#3	100100.	5443.7	3694.5	7485.4

Zoom In Zoom Out

Sample Name: mp14317-s2 Acquired: 4/18/2019 16:05:47 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.599**	**1.893**	**1.881**	**1.997**	**2.334**	**2.201**	**6.199**	**2.042**	**.2490**
Stddev	.002	.003	.004	.006	.003	.003	.007	.005	.0008
%RSD	.0883	.1597	.2041	.2784	.1323	.1415	.1133	.2284	.3258
#1	2.596	1.892	1.884	2.002	2.337	2.203	6.207	2.046	.2492
#2	2.600	1.896	1.883	1.999	2.334	2.202	6.198	2.044	.2497
#3	2.601	1.890	1.877	1.991	2.331	2.198	6.193	2.037	.2481

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.993**	**3.695**	**2.047**	**1.951**	**2.634**	**1.864**	**1.210**	**115.1**	**46.22**
Stddev	.003	.015	.004	.006	.007	.004	.005	.2	.13
%RSD	.1434	.3991	.2002	.2978	.2649	.2080	.4448	.1466	.2889
#1	1.995	3.707	2.048	1.956	2.639	1.868	1.216	115.2	46.28
#2	1.993	3.699	2.050	1.953	2.636	1.864	1.210	115.1	46.31
#3	1.990	3.678	2.042	1.945	2.626	1.860	1.205	114.9	46.07

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**157.9**	**46.32**	**36.95**	**25.28**	**1.865**	**1.870**	**3.529**	**1.948**	**2.040**
Stddev	.3	.32	.04	.02	.003	.004	.051	.006	.001
%RSD	.1866	.6994	.1017	.0708	.1465	.1965	1.439	.3316	.0691
#1	157.6	45.98	36.98	25.30	1.864	1.874	3.579	1.955	2.038
#2	158.2	46.63	36.95	25.27	1.867	1.870	3.533	1.947	2.041
#3	157.9	46.36	36.91	25.27	1.862	1.867	3.477	1.942	2.040

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.279**	**.9886**	**1.952**	**25.14**	**.0042**	**.1265**	**4.925**
Stddev	.008	.0038	.003	.06	.0015	.0014	.012
%RSD	.1924	.3889	.1318	.2477	35.12	1.141	.2337
#1	4.289	.9882	1.955	25.16	.0025	.1256	4.934
#2	4.276	.9926	1.951	25.20	.0047	.1256	4.929
#3	4.273	.9849	1.950	25.08	.0053	.1281	4.912

Zoom In Zoom Out

Sample Name: mp14317-s2 Acquired: 4/18/2019 16:05:47 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99455.**	**5401.8**	**3698.2**	**7491.8**
Stddev	245.	30.6	9.2	14.6
%RSD	.24677	.56714	.24825	.19548
#1	99205.	5413.2	3689.4	7478.5
#2	99465.	5367.1	3697.5	7489.5
#3	99696.	5425.2	3707.7	7507.5

Zoom In Zoom Out

Sample Name: jc86331-5 Acquired: 4/18/2019 16:10:48 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6620**	**.0049**	**.0053**	**.0726**	**.4930**	**.3118**	**4.573**	**.1336**	**.0023**
Stddev	.0008	.0001	.0002	.0002	.0045	.0024	.025	.0002	.0003
%RSD	.1159	2.370	3.664	.2217	.9041	.7640	.5449	.1824	11.66
#1	.6624	.0047	.0053	.0725	.4935	.3127	4.569	.1334	.0024
#2	.6611	.0049	.0055	.0728	.4883	.3091	4.550	.1335	.0024
#3	.6624	.0049	.0051	.0726	.4971	.3136	4.599	.1339	.0020

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1505**	**1.976**	**.1370**	**.0004**	**.8055**	**.0052**	**.0006**	**66.88**	**21.13**
Stddev	.0014	.005	.0018	.0009	.0015	.0003	.0015	.24	.07
%RSD	.9184	.2410	1.313	258.5	.1888	6.213	276.6	.3587	.3267
#1	.1491	1.971	.1365	.0015	.8037	.0052	-.0012	67.15	21.18
#2	.1506	1.981	.1355	-.0002	.8065	.0056	.0010	66.70	21.17
#3	.1518	1.977	.1390	-.0001	.8062	.0050	.0018	66.79	21.05

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**129.5**	**21.15**	**8.677**	**1.329**	**.0355**	**.0035**	**2.006**	**.1026**	**.1137**
Stddev	.5	.11	.034	.012	.0003	.0004	.013	.0009	.0004
%RSD	.3733	.5097	.3874	.8720	.8050	11.14	.6392	.9157	.3539
#1	129.9	21.07	8.702	1.342	.0353	.0039	2.008	.1029	.1133
#2	129.8	21.27	8.690	1.327	.0355	.0035	2.018	.1033	.1141
#3	129.0	21.11	8.639	1.319	.0358	.0031	1.992	.1015	.1138

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.096**	**.0082**	**.0643**	**25.37**	**.0026**	**.1113**	**3.137**
Stddev	.012	.0003	.0003	.02	.0009	.0006	.006
%RSD	.5813	3.844	.4316	.0898	33.30	.5471	.2035
#1	2.095	.0079	.0641	25.36	.0030	.1107	3.131
#2	2.084	.0085	.0643	25.37	.0033	.1119	3.136
#3	2.109	.0081	.0646	25.40	.0016	.1113	3.143

Zoom In / Zoom Out

Sample Name: jc86331-5 Acquired: 4/18/2019 16:10:48 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102130.**	**5459.3**	**3783.6**	**7829.7**
Stddev	579.	51.3	7.1	18.6
%RSD	.56722	.94041	.18796	.23696
#1	102340.	5422.5	3791.8	7851.1
#2	102580.	5437.4	3779.3	7820.0
#3	101480.	5517.9	3779.7	7818.0

Zoom In / Zoom Out

Sample Name: mp14317-sd1 Acquired: 4/18/2019 16:16:04 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6954**	**.0051**	**.0049**	**.0755**	**.5261**	**.3239**	**4.986**	**.1402**	**-.0020**
Stddev	.0171	.0004	.0004	.0018	.0017	.0032	.023	.0018	.0004
%RSD	2.455	8.826	8.176	2.428	.3277	.9764	.4627	1.287	21.91
#1	.6868	.0053	.0050	.0775	.5243	.3209	4.959	.1408	-.0025
#2	.7151	.0045	.0045	.0738	.5264	.3272	4.998	.1382	-.0017
#3	.6843	.0053	.0053	.0754	.5277	.3235	4.999	.1417	-.0018

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1616**	**2.161**	**.1477**	**.0029**	**.8381**	**-.0039**	**.0034**	**71.29**	**23.15**
Stddev	.0019	.004	.0040	.0057	.0004	.0150	.0024	1.79	.56
%RSD	1.156	.2009	2.724	195.8	.0471	387.3	68.74	2.516	2.400
#1	.1595	2.165	.1436	.0086	.8386	.0133	.0045	70.83	22.98
#2	.1630	2.159	.1516	.0030	.8378	-.0147	.0050	73.28	23.77
#3	.1623	2.157	.1479	-.0029	.8381	-.0102	.0007	69.78	22.70

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**141.5**	**22.50**	**9.059**	**1.495**	**.0404**	**.0041**	**2.103**	**.1107**	**.1194**
Stddev	3.5	.54	.214	.061	.0013	.0011	.038	.0014	.0035
%RSD	2.508	2.398	2.366	4.074	3.190	26.28	1.805	1.277	2.948
#1	139.9	22.23	9.045	1.562	.0415	.0053	2.145	.1104	.1178
#2	145.6	23.12	9.280	1.481	.0390	.0035	2.093	.1094	.1234
#3	139.1	22.14	8.852	1.442	.0406	.0033	2.071	.1122	.1170

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.242**	**.0154**	**.0672**	**26.91**	**-.0002**	**.1218**	**3.358**
Stddev	.013	.0028	.0002	.13	.0094	.0063	.017
%RSD	.5970	18.13	.3647	.4937	6168.	5.174	.5196
#1	2.227	.0123	.0671	27.03	-.0099	.1178	3.375
#2	2.249	.0163	.0675	26.92	.0089	.1290	3.360
#3	2.251	.0177	.0670	26.77	.0006	.1185	3.340

Zoom In / Zoom Out

Sample Name: mp14317-sd1 Acquired: 4/18/2019 16:16:04 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101260.**	**5249.4**	**3743.9**	**8143.6**
Stddev	374.	83.1	2.3	2.5
%RSD	.36970	1.5838	.06214	.03089
#1	101690.	5272.3	3742.5	8145.1
#2	101030.	5157.2	3746.6	8145.0
#3	101060.	5318.6	3742.6	8140.7

Zoom In / Zoom Out

Sample Name: missedconf Acquired: 4/18/2019 16:21:22 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**-.0002**	**-.0003**	**.0002**	**-.0000**	W **-.0054**	**-.0001**	**.0003**
Stddev	.0001	.0000	.0001	.0001	.0002	.0001	.0000	.0001
%RSD	14.90	15.16	33.65	26.90	4920.	2.459	50.56	46.37
#1	-.0004	-.0003	-.0003	.0002	.0001	-.0055	-.0000	.0004
#2	-.0005	-.0002	-.0004	.0002	-.0002	-.0053	-.0001	.0001
#3	-.0006	-.0002	-.0002	.0003	.0001	-.0053	-.0001	.0003

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0030**	**.0002**	**-.0001**	**.0025**	**.0010**	**.0002**	**-.0023**	**.0023**
Stddev	.0001	.0000	.0001	.0003	.0004	.0001	.0003	.0002
%RSD	3.763	16.14	39.51	10.89	41.82	65.83	14.36	8.658
#1	-.0030	.0002	-.0002	.0028	.0011	.0002	-.0026	.0021
#2	-.0028	.0002	-.0002	.0023	.0005	.0001	-.0024	.0025
#3	-.0030	.0003	-.0001	.0023	.0014	.0004	-.0020	.0023

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**-.0003**	**-.0048**	**.0308**	**-.0335**	**-.0237**	**-.0002**	**-.0001**
Stddev	.0112	.0026	.0054	.0050	.0126	.0100	.0002	.0000
%RSD	723.0	813.0	112.8	16.26	37.74	42.39	120.5	.9858
#1	-.0032	.0022	.0003	.0269	-.0375	-.0186	-.0001	-.0001
#2	.0144	-.0030	-.0042	.0364	-.0193	-.0172	.0000	-.0001
#3	-.0065	-.0002	-.0105	.0291	-.0436	-.0353	-.0003	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0057**	**-.0007**	**.0000**	**-.0002**	**-.0013**	**.0001**	**.0090**	**.0004**
Stddev	.0003	.0002	.0000	.0000	.0003	.0002	.0005	.0006
%RSD	5.039	27.82	598.2	17.25	27.66	142.7	5.704	135.8
#1	-.0057	-.0005	.0001	-.0002	-.0014	.0000	.0086	.0010
#2	-.0060	-.0008	-.0000	-.0002	-.0015	.0003	.0096	.0004
#3	-.0054	-.0007	-.0000	-.0002	-.0009	.0000	.0088	-.0001

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/18/2019 16:21:22 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0002**	**-.0014**
Stddev	.0008	.0004
%RSD	450.8	25.04
#1	-.0010	-.0010
#2	-.0000	-.0017
#3	.0005	-.0015

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**234490.**	**8542.6**	**10269.**	**22572.**
Stddev	2106.	70.0	95.	191.
%RSD	.89792	.81949	.92610	.84436
#1	232210.	8529.2	10334.	22700.
#2	234900.	8480.2	10313.	22663.
#3	236360.	8618.3	10160.	22353.

Zoom In Zoom Out

Sample Name: jc86047-3r Acquired: 4/18/2019 16:26:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4128**	**.0038**	**.0015**	**.0645**	**.0751**	**.0951**	**7.867**	**.1353**	**.0005**
Stddev	.0012	.0000	.0002	.0004	.0007	.0001	.014	.0007	.0002
%RSD	.2815	.8747	10.09	.5518	.9261	.1061	.1796	.5456	37.91
#1	.4121	.0038	.0016	.0645	.0755	.0952	7.868	.1361	.0003
#2	.4141	.0038	.0015	.0642	.0755	.0951	7.852	.1348	.0007
#3	.4121	.0038	.0013	.0649	.0743	.0950	7.881	.1350	.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0959**	**.3169**	**.0336**	**.0002**	**.0792**	**-.0019**	**-.0000**	**62.95**	**4.979**
Stddev	.0007	.0012	.0017	.0007	.0013	.0003	.0012	.11	.017
%RSD	.7414	.3690	4.999	395.0	1.598	16.02	18520.	.1746	.3453
#1	.0965	.3182	.0333	.0005	.0788	-.0017	.0013	62.92	4.963
#2	.0951	.3164	.0321	.0007	.0806	-.0018	-.0008	63.07	4.997
#3	.0960	.3161	.0354	-.0006	.0782	-.0023	-.0006	62.86	4.976

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**131.1**	**20.94**	**7.430**	**.3434**	**.0176**	**.0029**	**2.111**	**.0222**	**.0549**
Stddev	.2	.09	.010	.0065	.0008	.0002	.042	.0002	.0003
%RSD	.1822	.4076	.1362	1.893	4.477	6.559	1.979	1.020	.5528
#1	131.1	20.84	7.441	.3365	.0185	.0030	2.159	.0220	.0546
#2	131.4	21.00	7.422	.3444	.0172	.0027	2.085	.0224	.0550
#3	130.9	20.97	7.427	.3494	.0171	.0029	2.089	.0223	.0552

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6507**	**.0054**	**.0846**	**1.977**	**-.0021**	**.1283**	**2.076**
Stddev	.0045	.0008	.0005	.006	.0009	.0012	.002
%RSD	.6927	14.29	.6209	.3298	40.47	.9263	.1009
#1	.6558	.0048	.0846	1.975	-.0031	.1280	2.075
#2	.6474	.0063	.0841	1.984	-.0015	.1272	2.078
#3	.6488	.0053	.0852	1.972	-.0017	.1296	2.075

Zoom In Zoom Out

Sample Name: jc86047-3r Acquired: 4/18/2019 16:26:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100840.**	**5291.0**	**3736.8**	**7810.8**
Stddev	49.	12.6	5.8	12.4
%RSD	.04872	.23723	.15630	.15822
#1	100840.	5293.4	3731.0	7797.2
#2	100790.	5277.4	3736.5	7814.0
#3	100890.	5302.1	3742.7	7821.3

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 16:32:15 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.007**	**2.032**	**2.002**	**2.048**	**2.000**	**1.947**	**1.997**	**2.021**	**.2435**
Stddev	.003	.005	.003	.001	.006	.001	.001	.002	.0002
%RSD	.1638	.2293	.1469	.0508	.2968	.0471	.0292	.0888	.0846
#1	2.010	2.034	1.999	2.048	2.002	1.947	1.997	2.023	.2434
#2	2.006	2.036	2.005	2.049	1.993	1.948	1.996	2.020	.2433
#3	2.004	2.027	2.003	2.047	2.005	1.946	1.997	2.019	.2437
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.960**	**2.034**	**2.024**	**2.089**	**2.055**	**2.035**	**2.059**	**39.75**	**40.71**
Stddev	.002	.001	.002	.004	.005	.003	.003	.15	.16
%RSD	.1078	.0598	.0874	.1906	.2239	.1514	.1557	.3703	.4050
#1	1.962	2.033	2.022	2.084	2.051	2.031	2.059	39.91	40.74
#2	1.958	2.035	2.026	2.092	2.060	2.037	2.062	39.73	40.86
#3	1.960	2.033	2.025	2.091	2.054	2.037	2.056	39.61	40.54
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.70**	**39.80**	**40.09**	**40.56**	**2.094**	**2.037**	**5.226**	**2.052**	**2.051**
Stddev	.18	.32	.14	.10	.002	.002	.008	.006	.002
%RSD	.4418	.8041	.3429	.2359	.1040	.1116	.1590	.3044	.0795
#1	40.72	39.86	40.08	40.58	2.092	2.035	5.218	2.047	2.052
#2	40.86	40.08	40.23	40.63	2.096	2.039	5.234	2.059	2.052
#3	40.51	39.45	39.96	40.45	2.093	2.036	5.226	2.049	2.049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 16:32:15 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.934**	**1.995**	**1.951**	**2.064**	**2.102**	**1.982**	**2.013**
Stddev	.001	.004	.002	.009	.003	.001	.002
%RSD	.0268	.2238	.0978	.4405	.1336	.0721	.0974
#1	1.934	1.990	1.953	2.054	2.099	1.983	2.011
#2	1.934	1.998	1.949	2.070	2.101	1.981	2.015
#3	1.933	1.996	1.951	2.069	2.105	1.981	2.012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**95555.**	**5051.0**	**3542.1**	**7367.4**
Stddev	55.	50.5	5.2	2.5
%RSD	.05723	1.0008	.14775	.03425
#1	95603.	5043.9	3547.9	7370.3
#2	95495.	5004.3	3537.9	7366.0
#3	95567.	5104.7	3540.3	7365.9

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 16:37:18 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0001**	**-.0001**	**.0003**	**-.0001**	**-.0004**	**-.0001**	**.0000**	**-.0016**
Stddev	.0000	.0001	.0001	.0003	.0003	.0004	.0000	.0002	.0001
%RSD	44.13	102.3	125.9	109.5	288.6	112.5	58.05	618.0	8.105
#1	.0001	-.0002	-.0002	.0003	.0000	-.0004	-.0001	-.0002	-.0017
#2	.0002	-.0000	.0000	.0006	-.0004	.0001	-.0000	.0002	-.0014
#3	.0001	-.0000	-.0001	-.0000	.0001	-.0008	-.0001	.0001	-.0016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0001**	**-.0000**	**-.0005**	**-.0006**	**-.0003**	**.0016**	**-.0088**	**-.0015**
Stddev	.0001	.0000	.0013	.0004	.0008	.0020	.0018	.0036	.0040
%RSD	54.76	53.67	2556.	78.53	130.0	620.2	112.7	41.30	261.0
#1	.0001	-.0001	.0003	-.0001	-.0004	-.0004	.0011	-.0046	.0028
#2	.0003	-.0001	-.0014	-.0009	-.0016	-.0023	.0002	-.0103	-.0023
#3	.0001	-.0001	.0010	-.0005	.0000	.0017	.0037	-.0114	-.0051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0012**	**.0051**	**.0750**	**.0136**	**.0014**	**.0001**	**.0012**	**-.0002**	**.0001**
Stddev	.0100	.0247	.0361	.0083	.0003	.0002	.0002	.0007	.0001
%RSD	819.7	486.5	48.12	60.53	23.98	239.1	20.76	408.3	188.9
#1	.0055	-.0182	.0978	.0042	.0014	.0002	.0012	-.0007	-.0001
#2	.0035	.0310	.0939	.0173	.0018	-.0001	.0014	.0006	.0002
#3	-.0127	.0024	.0334	.0194	.0011	.0001	.0009	-.0004	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 16:37:18 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0006**	**.0002**	**.0015**	**-.0024**	**.0014**	**.0092**
Stddev	.0002	.0005	.0002	.0022	.0006	.0007	.0008
%RSD	404.2	80.73	73.03	145.6	23.39	47.58	8.452
#1	-.0001	.0011	.0000	.0039	-.0024	.0006	.0096
#2	.0002	.0001	.0004	.0007	-.0018	.0017	.0097
#3	-.0002	.0007	.0003	-.0002	-.0029	.0018	.0083
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99826.**	**5063.7**	**3654.2**	**8206.9**
Stddev	262.	13.8	9.0	18.6
%RSD	.26221	.27194	.24736	.22704
#1	100080.	5065.3	3649.6	8203.2
#2	99559.	5049.1	3648.4	8190.4
#3	99836.	5076.5	3664.6	8227.1

Zoom In Zoom Out

Sample Name: icsa Acquired: 4/18/2019 16:42:50 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0008**	**.0001**	**-.0006**	**-.0011**	**.0008**	**.0004**	**.0011**	**-.0006**	**-.0022**
Stddev	.0001	.0001	.0001	.0004	.0006	.0003	.0001	.0004	.0003
%RSD	17.32	101.0	24.98	38.48	75.67	68.55	10.46	64.87	14.68
#1	-.0009	-.0000	-.0004	-.0006	.0001	.0003	.0011	-.0010	-.0021
#2	-.0008	.0002	-.0007	-.0013	.0011	.0007	.0012	-.0003	-.0026
#3	-.0006	.0002	-.0007	-.0013	.0012	.0002	.0010	-.0004	-.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**-.0016**	**.0010**	**-.0011**	**.0025**	**.0008**	**-.0024**	**503.4**	**381.3**
Stddev	.0001	.0003	.0016	.0035	.0033	.0013	.0020	.8	.9
%RSD	8.437	18.29	159.1	325.2	130.3	177.3	83.02	.1623	.2372
#1	.0015	-.0012	-.0006	-.0047	-.0012	.0018	-.0029	504.3	381.8
#2	.0016	-.0016	.0025	.0022	.0049	-.0007	-.0041	502.6	380.2
#3	.0017	-.0018	.0010	-.0007	.0039	.0012	-.0002	503.4	381.8
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**185.7**	**489.1**	**-.3288**	**.0167**	**-.0046**	**-.0014**	**-.0149**	**-.0022**	**-.0026**
Stddev	.2	1.5	.0402	.0085	.0006	.0003	.0011	.0008	.0001
%RSD	.1055	.3028	12.22	50.92	12.51	19.04	7.273	35.52	3.500
#1	185.8	490.9	-.3586	.0104	-.0042	-.0016	-.0139	-.0015	-.0026
#2	185.7	488.3	-.2831	.0263	-.0043	-.0011	-.0161	-.0030	-.0027
#3	185.5	488.3	-.3446	.0132	-.0052	-.0015	-.0147	-.0022	-.0025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: icsa Acquired: 4/18/2019 16:42:50 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**.0092**	**-.0019**	**-.0250**	**.0055**	**-.0068**	**.0091**
Stddev	.0001	.0002	.0000	.0045	.0018	.0008	.0006
%RSD	8.606	2.457	2.447	18.15	32.20	11.49	6.082
#1	-.0007	.0090	-.0020	-.0263	.0068	-.0067	.0097
#2	-.0007	.0092	-.0019	-.0199	.0035	-.0077	.0090
#3	-.0008	.0094	-.0019	-.0286	.0061	-.0062	.0086
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**88189.**	**4918.9**	**3283.4**	**6515.4**
Stddev	309.	20.0	1.2	6.4
%RSD	.35016	.40719	.03796	.09889
#1	88490.	4912.0	3282.4	6511.5
#2	87873.	4941.5	3283.2	6511.9
#3	88205.	4903.3	3284.8	6522.9

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/18/2019 16:48:11 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5077**	**.4992**	**1.013**	**.4983**	**.4764**	**.5022**	**.4885**	**.9741**	**1.083**
Stddev	.0012	.0014	.003	.0009	.0016	.0009	.0005	.0019	.000
%RSD	.2453	.2884	.2728	.1760	.3444	.1719	.0973	.1932	.0039
#1	.5080	.5007	1.015	.4990	.4757	.5012	.4886	.9762	1.083
#2	.5088	.4978	1.010	.4987	.4783	.5028	.4889	.9735	1.083
#3	.5063	.4993	1.015	.4973	.4752	.5025	.4879	.9726	1.083
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4837**	**.9390**	**1.089**	**.9744**	**.9775**	**1.057**	**1.110**	**501.2**	**379.4**
Stddev	.0018	.0006	.005	.0029	.0015	.003	.004	.5	.8
%RSD	.3725	.0658	.4633	.2953	.1573	.2929	.3243	.0904	.2137
#1	.4829	.9390	1.088	.9737	.9772	1.058	1.109	501.7	380.3
#2	.4857	.9395	1.084	.9720	.9792	1.054	1.106	500.9	378.8
#3	.4824	.9383	1.094	.9776	.9762	1.060	1.113	500.8	379.1
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**192.6**	**496.3**	**-.3623**	**.0310**	**.4840**	**.4865**	**.5213**	**.4723**	**.5176**
Stddev	.6	2.0	.0299	.0125	.0019	.0007	.0025	.0015	.0007
%RSD	.3207	.3965	8.266	40.30	.3856	.1415	.4708	.3081	.1421
#1	193.3	498.2	-.3279	.0453	.4830	.4873	.5227	.4736	.5182
#2	192.1	494.3	-.3828	.0257	.4829	.4860	.5185	.4725	.5177
#3	192.3	496.4	-.3761	.0221	.4862	.4863	.5228	.4707	.5167
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/18/2019 16:48:11 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4867**	**.4841**	**.4785**	**.4980**	**.5389**	**.5203**	**.5159**
Stddev	.0010	.0006	.0007	.0006	.0022	.0013	.0018
%RSD	.1977	.1171	.1488	.1274	.4165	.2560	.3525
#1	.4878	.4847	.4781	.4982	.5397	.5190	.5160
#2	.4863	.4835	.4793	.4985	.5364	.5217	.5140
#3	.4860	.4842	.4781	.4973	.5407	.5203	.5176
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**88439.**	**4917.5**	**3283.9**	**6526.6**
Stddev	164.	34.5	7.2	7.7
%RSD	.18516	.70186	.21807	.11737
#1	88440.	4890.3	3277.3	6518.5
#2	88274.	4956.4	3291.5	6533.7
#3	88602.	4905.9	3282.7	6527.7

Zoom In Zoom Out

Sample Name: fa63247-1 Acquired: 4/18/2019 16:53:13 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.172**	**.0006**	**.0194**	**.0287**	**.2349**	**.4315**	F **20.51**	**.8380**
Stddev	.132	.0001	.0005	.0005	.0012	.0006	.03	.0181
%RSD	6.094	17.91	2.559	1.748	.4926	.1478	.1472	2.165
#1	2.091	.0006	.0198	.0293	.2339	.4312	20.47	.8495
#2	2.100	.0006	.0196	.0286	.2362	.4311	20.53	.8474
#3	2.325	.0004	.0188	.0283	.2346	.4323	20.53	.8171

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0186**	**.3773**	**2.703**	**.4146**	**.0078**	**.0382**	**-.0017**	**.0034**
Stddev	.0011	.0006	.061	.0104	.0011	.0020	.0013	.0006
%RSD	5.827	.1491	2.272	2.517	13.77	5.164	77.67	17.02
#1	.0178	.3777	2.744	.4225	.0090	.0370	-.0012	.0035
#2	.0181	.3767	2.732	.4187	.0070	.0405	-.0007	.0028
#3	.0198	.3776	2.632	.4028	.0073	.0372	-.0032	.0040

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**48.99**	F **1704.**	**27.71**	**61.06**	**39.92**	**111.3**	**.2097**	**.0084**
Stddev	3.12	64.	1.75	3.91	2.44	6.9	.0049	.0002
%RSD	6.358	3.739	6.316	6.400	6.123	6.159	2.359	2.263
#1	47.14	1641.	26.57	58.39	38.33	107.0	.2129	.0085
#2	47.24	1702.	26.82	59.25	38.70	107.6	.2122	.0085
#3	52.58	1768.	29.72	65.54	42.74	119.2	.2040	.0082

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.921**	**.0425**	**1.499**	**1.275**	**.0225**	**.0091**	**65.98**	F **-.0920**
Stddev	.060	.0013	.095	.001	.0008	.0003	1.31	.0020
%RSD	2.071	3.060	6.321	.0902	3.361	2.881	1.988	2.226
#1	2.955	.0437	1.441	1.274	.0232	.0092	66.83	-.0943
#2	2.957	.0426	1.448	1.276	.0217	.0088	66.65	-.0913
#3	2.852	.0411	1.609	1.274	.0225	.0093	64.47	-.0905

Zoom In Zoom Out

Sample Name: fa63247-1 Acquired: 4/18/2019 16:53:13 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	F **-.0329**	F **27.02**
Stddev	.0012	.54
%RSD	3.576	2.011
#1	-.0323	27.38
#2	-.0343	27.29
#3	-.0322	26.40

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**86513.**	**4720.0**	**3187.3**	**6101.0**
Stddev	180.	258.1	58.6	101.8
%RSD	.20818	5.4693	1.8383	1.6693
#1	86696.	4911.3	3151.9	6039.3
#2	86335.	4822.5	3155.0	6045.3
#3	86509.	4426.4	3254.9	6218.6

Zoom In Zoom Out

Sample Name: fa63248-1 Acquired: 4/18/2019 16:58:45 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.064**	**.0159**	**.0124**	**.1323**	**.1363**	**.7431**	F **23.61**	**.3107**	**.0116**
Stddev	.012	.0001	.0002	.0004	.0009	.0014	.09	.0003	.0008
%RSD	.1946	.8966	1.357	.3247	.6787	.1887	.3719	.0972	7.014
#1	6.077	.0159	.0126	.1328	.1358	.7434	23.68	.3110	.0122
#2	6.061	.0157	.0123	.1322	.1374	.7444	23.51	.3104	.0120
#3	6.054	.0160	.0123	.1319	.1359	.7416	23.63	.3107	.0107

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1488**	**1.873**	**.2761**	**.0162**	**.1345**	**.0284**	**.0083**	**54.13**	F **825.0**
Stddev	.0010	.004	.0006	.0006	.0019	.0030	.0009	.16	8.5
%RSD	.6577	.2413	.2180	3.936	1.402	10.46	11.34	.2948	1.031
#1	.1490	1.878	.2763	.0163	.1365	.0301	.0078	54.31	834.7
#2	.1478	1.869	.2754	.0168	.1328	.0250	.0077	54.06	818.6
#3	.1497	1.874	.2766	.0155	.1342	.0301	.0094	54.01	821.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**69.85**	**70.37**	**21.62**	**150.7**	**.2006**	**.0108**	**5.934**	**.0238**	**3.822**
Stddev	.20	.28	.09	.4	.0017	.0003	.129	.0006	.008
%RSD	.2819	.4006	.4040	.2397	.8483	2.891	2.169	2.415	.1981
#1	70.03	70.59	21.70	151.1	.2025	.0104	6.030	.0232	3.830
#2	69.88	70.47	21.64	150.6	.2000	.0109	5.984	.0243	3.822
#3	69.64	70.05	21.53	150.4	.1992	.0109	5.787	.0239	3.815

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.504**	**.0231**	**.0902**	**53.91**	**.0058**	**.0738**	F **8.946**
Stddev	.002	.0008	.0002	.19	.0010	.0008	.036
%RSD	.0914	3.524	.2344	.3443	18.05	1.092	.3996
#1	2.506	.0222	.0904	54.08	.0065	.0733	8.986
#2	2.501	.0233	.0900	53.71	.0063	.0734	8.917
#3	2.505	.0238	.0903	53.95	.0046	.0747	8.934

Zoom In Zoom Out

Sample Name: fa63248-1 Acquired: 4/18/2019 16:58:45 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**93476.**	**5178.2**	**3484.6**	**6449.8**
Stddev	45.	6.8	5.2	6.5
%RSD	.04864	.13164	.14822	.10152
#1	93512.	5170.4	3479.2	6442.6
#2	93490.	5181.1	3489.5	6455.3
#3	93425.	5183.1	3485.1	6451.5

Zoom In Zoom Out

Sample Name: jc86331-1 Acquired: 4/18/2019 17:04:17 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6978**	**.0051**	**.0137**	**.0509**	**.1452**	**.9911**	**2.277**	**.1762**	**-.0002**
Stddev	.0007	.0001	.0003	.0003	.0029	.0211	.043	.0006	.0007
%RSD	.1028	1.302	2.062	.5983	2.020	2.130	1.868	.3658	285.1
#1	.6972	.0050	.0140	.0505	.1482	1.015	2.326	.1757	-.0010
#2	.6986	.0051	.0135	.0510	.1450	.9791	2.254	.1769	.0004
#3	.6975	.0051	.0136	.0510	.1424	.9788	2.251	.1759	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1688**	**2.720**	**.4318**	**.0005**	**1.900**	**.0049**	**.0161**	**49.14**	**32.45**
Stddev	.0045	.005	.0014	.0009	.003	.0007	.0007	.15	.07
%RSD	2.647	.1802	.3266	196.7	.1583	15.13	4.391	.3092	.2282
#1	.1739	2.725	.4301	-.0004	1.903	.0041	.0153	49.15	32.51
#2	.1660	2.717	.4325	.0014	1.898	.0051	.0163	49.28	32.49
#3	.1664	2.717	.4326	.0004	1.899	.0055	.0167	48.98	32.37

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**109.8**	**13.00**	**6.588**	**.5920**	**.0469**	**.0148**	**2.147**	**.1364**	**.1770**
Stddev	.2	.07	.017	.0149	.0003	.0002	.034	.0006	.0005
%RSD	.1993	.5681	.2626	2.514	.6845	1.226	1.565	.4540	.2804
#1	109.7	13.02	6.601	.6036	.0472	.0146	2.184	.1367	.1765
#2	110.1	12.91	6.568	.5973	.0469	.0148	2.140	.1357	.1769
#3	109.7	13.06	6.595	.5752	.0465	.0149	2.118	.1369	.1775

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.430**	**.0176**	**.0070**	**5.198**	**.0059**	**.0643**	**3.790**
Stddev	.029	.0010	.0002	.006	.0013	.0010	.004
%RSD	2.023	5.797	2.942	.1120	22.62	1.634	.0999
#1	1.463	.0164	.0072	5.195	.0070	.0633	3.786
#2	1.416	.0179	.0068	5.205	.0044	.0654	3.794
#3	1.410	.0184	.0070	5.194	.0064	.0640	3.790

Zoom In Zoom Out

Sample Name: jc86331-1 Acquired: 4/18/2019 17:04:17 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99554.**	**5293.8**	**3698.1**	**7799.9**
Stddev	1476.	29.1	4.6	7.5
%RSD	1.4829	.54987	.12472	.09643
#1	97850.	5279.3	3692.9	7792.2
#2	100450.	5274.9	3701.7	7807.3
#3	100360.	5327.4	3699.6	7800.3

Zoom In Zoom Out

Sample Name: jc86331-2 Acquired: 4/18/2019 17:09:32 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7748**	**.0064**	**.0131**	**.0359**	**.1531**	**.9861**	**1.938**	**.1838**	**.0008**
Stddev	.0024	.0001	.0003	.0006	.0008	.0020	.001	.0022	.0004
%RSD	.3117	1.640	2.114	1.672	.5089	.2002	.0409	1.214	54.54
#1	.7729	.0065	.0130	.0355	.1537	.9859	1.939	.1824	.0012
#2	.7775	.0064	.0130	.0355	.1522	.9882	1.938	.1827	.0009
#3	.7740	.0063	.0135	.0366	.1533	.9842	1.938	.1864	.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1805**	**2.589**	**.5059**	**.0014**	**1.761**	**.0061**	**.0176**	**40.87**	**72.40**
Stddev	.0005	.034	.0093	.0007	.019	.0009	.0025	.22	.52
%RSD	.2701	1.305	1.839	51.80	1.068	14.22	14.22	.5383	.7245
#1	.1802	2.572	.4983	.0011	1.751	.0066	.0195	40.85	72.31
#2	.1803	2.568	.5031	.0022	1.750	.0051	.0148	41.10	72.96
#3	.1811	2.628	.5163	.0008	1.783	.0067	.0185	40.66	71.92

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**82.63**	**20.16**	**4.007**	**1.451**	**.0569**	**.0240**	**1.773**	**.0924**	**.4785**
Stddev	.54	.12	.038	.004	.0016	.0004	.039	.0012	.0031
%RSD	.6511	.5749	.9584	.2862	2.817	1.581	2.198	1.254	.6470
#1	82.34	20.09	3.991	1.455	.0556	.0238	1.759	.0915	.4763
#2	83.25	20.29	4.050	1.451	.0565	.0238	1.742	.0919	.4820
#3	82.30	20.09	3.978	1.447	.0587	.0245	1.817	.0937	.4771

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.944**	**.0128**	**.0095**	**5.100**	**.0055**	**.0511**	**3.465**
Stddev	.001	.0014	.0001	.092	.0003	.0003	.068
%RSD	.0356	11.18	.9415	1.812	5.327	.5772	1.966
#1	1.943	.0119	.0095	5.036	.0054	.0507	3.413
#2	1.945	.0145	.0096	5.058	.0058	.0512	3.439
#3	1.944	.0121	.0094	5.206	.0053	.0512	3.542

Zoom In Zoom Out

Sample Name: jc86331-2 Acquired: 4/18/2019 17:09:32 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99892.**	**5269.3**	**3661.9**	**7604.8**
Stddev	246.	63.9	41.2	77.0
%RSD	.24591	1.2130	1.1261	1.0124
#1	99920.	5265.3	3689.8	7650.9
#2	100120.	5207.5	3681.5	7647.6
#3	99633.	5335.1	3614.6	7515.9

Zoom In Zoom Out

Sample Name: jc86331-3 Acquired: 4/18/2019 17:14:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5819**	**.0045**	**.0092**	**.0438**	**.1388**	**.8756**	**2.113**	**.1192**	**-.0003**
Stddev	.0013	.0001	.0001	.0003	.0003	.0014	.003	.0004	.0001
%RSD	.2239	2.274	1.061	.6770	.1866	.1559	.1360	.3419	21.97
#1	.5833	.0044	.0093	.0441	.1389	.8770	2.116	.1193	-.0003
#2	.5807	.0046	.0091	.0436	.1385	.8743	2.112	.1187	-.0003
#3	.5819	.0046	.0093	.0436	.1389	.8755	2.110	.1195	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1859**	**2.125**	**.6468**	**.0006**	**3.091**	**.0042**	**.0151**	**40.30**	**19.71**
Stddev	.0009	.005	.0016	.0014	.006	.0024	.0002	.07	.08
%RSD	.4773	.2238	.2462	223.5	.1929	58.55	1.450	.1859	.3988
#1	.1857	2.130	.6486	.0005	3.098	.0023	.0152	40.33	19.65
#2	.1851	2.120	.6462	-.0007	3.086	.0069	.0153	40.21	19.67
#3	.1869	2.125	.6455	.0021	3.090	.0033	.0149	40.35	19.80

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**122.8**	**9.618**	**4.859**	**.5428**	**.0294**	**.0109**	**1.977**	**.1050**	**.1126**
Stddev	.2	.047	.026	.0052	.0008	.0002	.012	.0006	.0002
%RSD	.1638	.4833	.5460	.9661	2.822	2.036	.6084	.5916	.1997
#1	122.7	9.603	4.880	.5476	.0301	.0107	1.990	.1057	.1123
#2	122.7	9.581	4.829	.5435	.0285	.0108	1.966	.1047	.1127
#3	123.0	9.670	4.869	.5372	.0297	.0111	1.974	.1045	.1127

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.175**	**.0131**	**.0048**	**3.575**	**.0063**	**.0685**	**3.037**
Stddev	.003	.0006	.0001	.003	.0018	.0005	.001
%RSD	.2140	4.662	1.637	.0836	27.74	.7119	.0423
#1	1.176	.0124	.0049	3.573	.0079	.0686	3.036
#2	1.177	.0133	.0049	3.573	.0067	.0679	3.039
#3	1.172	.0135	.0047	3.578	.0044	.0689	3.037

Zoom In / Zoom Out

Sample Name: jc86331-3 Acquired: 4/18/2019 17:14:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99909.**	**5240.8**	**3696.1**	**7887.0**
Stddev	122.	44.5	3.0	3.9
%RSD	.12208	.84904	.08127	.04980
#1	99818.	5291.6	3694.3	7883.5
#2	99861.	5208.6	3699.6	7891.2
#3	100050.	5222.1	3694.4	7886.1

Zoom In / Zoom Out

Sample Name: jc86331-4 Acquired: 4/18/2019 17:20:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3289**	**.0030**	**.0020**	**.0171**	**.0661**	**.1182**	**.1439**	**.2562**	**-.0002**
Stddev	.0016	.0002	.0001	.0001	.0003	.0001	.0003	.0009	.0003
%RSD	.4824	5.612	7.152	.6524	.4286	.1261	.1890	.3448	136.4
#1	.3302	.0031	.0020	.0171	.0660	.1183	.1437	.2565	.0001
#2	.3294	.0031	.0021	.0173	.0659	.1180	.1437	.2568	-.0002
#3	.3271	.0028	.0019	.0171	.0664	.1182	.1442	.2552	-.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.204**	**.1903**	**.0510**	**.0150**	**.2383**	**.0078**	**-.0008**	**13.72**	**3.949**
Stddev	.002	.0012	.0004	.0015	.0014	.0005	.0008	.08	.021
%RSD	.1437	.6148	.7321	10.08	.5874	6.158	105.6	.5594	.5411
#1	1.205	.1909	.0513	.0135	.2376	.0082	.0001	13.79	3.972
#2	1.202	.1910	.0511	.0166	.2399	.0079	-.0010	13.74	3.947
#3	1.205	.1889	.0505	.0150	.2374	.0073	-.0015	13.64	3.929

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.15**	**1.140**	**1.516**	**.6358**	**.0067**	**.0198**	**1.194**	**.0297**	**.1079**
Stddev	.08	.028	.009	.0145	.0004	.0002	.044	.0008	.0003
%RSD	.3065	2.491	.6092	2.283	5.571	1.018	3.668	2.695	.2543
#1	25.22	1.169	1.507	.6510	.0064	.0198	1.236	.0303	.1080
#2	25.15	1.139	1.516	.6342	.0065	.0201	1.198	.0301	.1080
#3	25.07	1.112	1.526	.6221	.0071	.0197	1.148	.0288	.1075

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8259**	**.0028**	**.0193**	**12.12**	**.0081**	**.0200**	**.4963**
Stddev	.0015	.0005	.0001	.07	.0009	.0009	.0025
%RSD	.1757	19.66	.4722	.5986	11.59	4.499	.4991
#1	.8276	.0023	.0194	12.17	.0070	.0190	.4985
#2	.8249	.0026	.0192	12.14	.0086	.0203	.4967
#3	.8252	.0034	.0193	12.03	.0086	.0207	.4936

Zoom In / Zoom Out

Sample Name: jc86331-4 Acquired: 4/18/2019 17:20:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101140.**	**5175.4**	**3706.7**	**8178.2**
Stddev	215.	62.9	14.4	29.5
%RSD	.21262	1.2146	.38808	.36015
#1	101030.	5110.2	3703.3	8163.9
#2	101390.	5180.6	3694.3	8158.6
#3	101010.	5235.6	3722.5	8212.1

Zoom In / Zoom Out

Sample Name: jc86331-6 Acquired: 4/18/2019 17:25:18 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8898**	**.0056**	**.0028**	**.0824**	**.1941**	**.6248**	**2.139**	**.1951**	**-.0006**
Stddev	.0017	.0001	.0002	.0004	.0067	.0251	.086	.0008	.0031
%RSD	.1915	2.459	6.385	.4368	3.442	4.014	4.017	.3973	508.5
#1	.8905	.0058	.0026	.0828	.1955	.6310	2.160	.1960	-.0015
#2	.8911	.0055	.0030	.0824	.1868	.5972	2.044	.1946	.0029
#3	.8879	.0056	.0027	.0821	.1999	.6462	2.212	.1947	-.0033

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2763**	**2.436**	**1.585**	**.0013**	**4.444**	**.0095**	**.0105**	**77.69**	**85.28**
Stddev	.0123	.003	.007	.0010	.008	.0009	.0007	.20	.11
%RSD	4.455	.1295	.4365	77.90	.1728	9.148	7.137	.2544	.1328
#1	.2798	2.440	1.593	.0009	4.452	.0104	.0111	77.92	85.34
#2	.2627	2.434	1.580	.0006	4.445	.0086	.0106	77.56	85.34
#3	.2865	2.434	1.582	.0024	4.436	.0096	.0097	77.58	85.14

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **256.3**	**22.97**	**16.21**	**1.044**	**.0225**	**.0138**	**2.313**	**.1351**	**.2554**
Stddev	.3	.19	.03	.006	.0002	.0002	.012	.0014	.0009
%RSD	.1194	.8106	.1788	.6207	.7909	1.162	.4967	1.017	.3408
#1	255.9	22.76	16.22	1.038	.0225	.0140	2.321	.1363	.2546
#2	256.5	23.11	16.23	1.051	.0226	.0138	2.300	.1336	.2563
#3	256.4	23.03	16.17	1.045	.0223	.0137	2.319	.1353	.2552

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.386**	**.0115**	**.0397**	**5.656**	**.0129**	**.1083**	**2.787**
Stddev	.179	.0009	.0007	.044	.0024	.0015	.017
%RSD	4.090	7.503	1.733	.7862	19.02	1.391	.6225
#1	4.429	.0106	.0389	5.700	.0150	.1076	2.807
#2	4.189	.0115	.0403	5.656	.0102	.1101	2.780
#3	4.540	.0124	.0398	5.611	.0133	.1074	2.775

Zoom In Zoom Out

Sample Name: jc86331-6 Acquired: 4/18/2019 17:25:18 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99504.**	**5293.0**	**3624.8**	**7578.9**
Stddev	3358.	5.5	4.8	6.8
%RSD	3.3751	.10423	.13306	.09034
#1	98469.	5295.0	3620.4	7576.0
#2	103260.	5286.8	3630.0	7586.8
#3	96786.	5297.3	3623.9	7574.0

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 17:30:32 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.976**	**1.997**	**1.972**	**2.022**	**1.979**	**1.924**	**1.975**	**1.989**	**.2410**
Stddev	.004	.004	.005	.003	.003	.003	.001	.004	.0005
%RSD	.1984	.1972	.2483	.1497	.1401	.1665	.0661	.1900	.2115
#1	1.973	1.997	1.976	2.025	1.976	1.921	1.975	1.991	.2404
#2	1.975	1.993	1.973	2.023	1.982	1.928	1.974	1.991	.2411
#3	1.981	2.001	1.966	2.019	1.978	1.923	1.977	1.984	.2414
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.935**	**2.008**	**1.997**	**2.064**	**2.030**	**2.010**	**2.032**	**39.20**	**40.27**
Stddev	.002	.005	.006	.009	.002	.006	.003	.12	.09
%RSD	.0841	.2510	.2867	.4530	.1058	.3110	.1294	.3037	.2260
#1	1.936	2.006	2.003	2.073	2.028	2.016	2.035	39.12	40.23
#2	1.933	2.014	1.997	2.063	2.033	2.009	2.030	39.34	40.38
#3	1.936	2.004	1.991	2.055	2.030	2.004	2.032	39.15	40.21
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.10**	**39.19**	**39.55**	**39.98**	**2.066**	**2.010**	**5.167**	**2.027**	**2.021**
Stddev	.13	.10	.06	.05	.003	.002	.012	.004	.006
%RSD	.3259	.2617	.1543	.1174	.1490	.1198	.2393	.2062	.2821
#1	40.21	39.17	39.54	39.99	2.068	2.011	5.177	2.026	2.019
#2	39.96	39.09	39.50	39.94	2.066	2.011	5.170	2.032	2.017
#3	40.13	39.30	39.62	40.03	2.062	2.007	5.153	2.024	2.028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 17:30:32 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.908**	**1.967**	**1.925**	**2.052**	**2.080**	**1.958**	**2.005**
Stddev	.001	.003	.001	.004	.004	.002	.005
%RSD	.0625	.1644	.0693	.2142	.2172	.1179	.2290
#1	1.907	1.969	1.925	2.056	2.084	1.956	2.009
#2	1.909	1.968	1.926	2.053	2.081	1.961	2.000
#3	1.909	1.963	1.923	2.048	2.075	1.959	2.005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**95708.**	**5025.0**	**3556.5**	**7399.1**
Stddev	163.	23.6	4.9	9.4
%RSD	.17048	.46969	.13884	.12639
#1	95822.	5023.2	3560.2	7397.2
#2	95781.	5002.4	3550.9	7390.8
#3	95521.	5049.5	3558.3	7409.2

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 17:35:34 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0001**	**.0000**	**-.0001**	**.0006**	**-.0005**	**-.0000**	**.0003**	**-.0014**
Stddev	.0001	.0001	.0002	.0002	.0003	.0002	.0001	.0001	.0003
%RSD	46.69	128.5	568.8	127.4	55.56	34.94	166.2	20.83	17.77
#1	.0001	-.0001	.0002	-.0002	.0009	-.0003	-.0001	.0004	-.0015
#2	.0001	-.0002	-.0000	.0001	.0003	-.0005	-.0001	.0003	-.0017
#3	.0002	.0000	-.0001	-.0002	.0006	-.0006	.0000	.0003	-.0012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0001**	**.0008**	**.0001**	**.0000**	**-.0011**	**.0008**	**.0014**	**.0005**
Stddev	.0003	.0001	.0010	.0002	.0005	.0025	.0005	.0065	.0018
%RSD	100.8	101.7	133.6	275.4	1107.	216.5	54.73	468.5	336.3
#1	-.0000	-.0000	.0017	.0000	.0006	-.0008	.0005	-.0060	-.0005
#2	.0004	-.0001	-.0003	.0003	-.0003	-.0037	.0006	.0039	-.0006
#3	.0006	-.0000	.0009	-.0001	-.0002	.0012	.0013	.0062	.0026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0046**	**.0199**	**.0679**	**.0207**	**.0010**	**.0001**	**.0020**	**-.0003**	**.0001**
Stddev	.0033	.0475	.0277	.0069	.0004	.0001	.0008	.0002	.0001
%RSD	70.90	238.1	40.82	33.46	39.95	71.16	38.67	69.26	200.6
#1	.0065	.0672	.0794	.0276	.0006	.0000	.0013	-.0001	.0002
#2	.0008	.0204	.0363	.0208	.0012	.0001	.0028	-.0004	-.0001
#3	.0064	-.0277	.0880	.0137	.0013	.0001	.0017	-.0004	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 17:35:34 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0000**	**.0002**	**.0056**	**-.0012**	**.0026**	**.0101**
Stddev	.0005	.0010	.0001	.0023	.0008	.0025	.0006
%RSD	268.6	2370.	75.01	41.74	66.53	96.80	6.250
#1	.0003	.0012	.0000	.0057	-.0020	.0025	.0108
#2	-.0003	-.0005	.0002	.0079	-.0005	.0052	.0100
#3	-.0006	-.0005	.0003	.0032	-.0010	.0001	.0095
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100570.**	**5052.8**	**3673.3**	**8257.9**
Stddev	132.	21.4	6.1	19.3
%RSD	.13138	.42447	.16620	.23339
#1	100540.	5033.3	3671.4	8238.6
#2	100720.	5075.8	3668.4	8258.0
#3	100460.	5049.3	3680.2	8277.1

Zoom In Zoom Out

Sample Name: mgconf Acquired: 4/18/2019 17:41:07 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0001**	**-.0001**	**-.0002**	**-.0006**	**-.0004**	**.0011**	**.0004**	**-.0018**
Stddev	.0001	.0001	.0001	.0003	.0005	.0001	.0001	.0001	.0003
%RSD	66.65	123.9	245.5	130.5	80.09	31.52	5.839	37.26	17.77
#1	-.0000	.0000	-.0000	.0001	-.0011	-.0002	.0011	.0005	-.0014
#2	-.0002	-.0001	.0001	-.0005	-.0001	-.0004	.0011	.0004	-.0019
#3	-.0002	-.0001	-.0002	-.0003	-.0006	-.0005	.0010	.0002	-.0021

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**.0010**	**-.0003**	**-.0002**	**-.0023**	**.0005**	**-.0020**	**-.0099**	**.0315**
Stddev	.0002	.0001	.0010	.0008	.0003	.0009	.0013	.0067	.0025
%RSD	33.89	8.398	311.1	361.7	11.42	187.9	64.05	67.30	8.042
#1	-.0007	.0009	-.0011	.0004	-.0021	.0014	-.0011	-.0058	.0344
#2	-.0005	.0011	-.0006	-.0011	-.0026	.0003	-.0014	-.0064	.0304
#3	-.0009	.0010	.0008	.0001	-.0022	-.0003	-.0034	-.0176	.0297

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0023**	F **541.6**	**-.1801**	**.0261**	**.0012**	**.0007**	**.0065**	**-.0003**	**.0001**
Stddev	.0077	3.1	.0070	.0128	.0004	.0003	.0007	.0009	.0000
%RSD	336.3	.5632	3.892	49.09	35.98	45.11	10.12	278.6	64.51
#1	.0043	544.4	-.1730	.0385	.0016	.0003	.0062	.0006	.0000
#2	-.0107	542.1	-.1870	.0130	.0008	.0008	.0060	-.0012	.0001
#3	-.0004	538.4	-.1802	.0268	.0011	.0009	.0072	-.0004	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0044**	**.0000**	**-.0010**	**-.0000**	**.0036**	**.0140**
Stddev	.0002	.0006	.0001	.0042	.0025	.0012	.0010
%RSD	49.03	14.83	240.4	422.5	5241.	34.10	7.085
#1	-.0002	.0050	-.0000	-.0030	-.0014	.0026	.0142
#2	-.0005	.0043	.0000	-.0038	.0029	.0049	.0129
#3	-.0007	.0037	.0001	.0038	-.0016	.0032	.0149

Zoom In Zoom Out

Sample Name: mgconf Acquired: 4/18/2019 17:41:07 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**91855.**	**4889.1**	**3352.5**	**7031.0**
Stddev	176.	17.1	8.1	2.7
%RSD	.19161	.35062	.24253	.03896
#1	91783.	4875.0	3344.4	7033.1
#2	92056.	4884.0	3352.4	7027.9
#3	91727.	4908.2	3360.6	7032.0

Zoom In Zoom Out

Sample Name: caconf Acquired: 4/18/2019 17:46:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0002**	**-.0001**	**.0002**	**.0006**	**-.0003**	**.0004**	**.0001**
Stddev	.0002	.0001	.0001	.0002	.0004	.0002	.0000	.0004
%RSD	91.75	43.29	131.8	105.3	59.02	64.66	3.051	466.8
#1	-.0003	-.0003	-.0001	.0000	.0004	-.0003	.0004	-.0004
#2	-.0001	-.0001	.0000	.0001	.0011	-.0006	.0004	.0005
#3	-.0000	-.0003	-.0002	.0004	.0004	-.0001	.0004	.0001

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0006**	**.0002**	**.0001**	**.0000**	**-.0021**	**-.0026**	**.0013**
Stddev	.0005	.0002	.0003	.0013	.0010	.0006	.0025	.0006
%RSD	150.5	31.09	198.0	2334.	11450.	30.52	96.49	43.52
#1	.0001	.0004	-.0000	.0010	-.0003	-.0028	.0002	.0015
#2	-.0008	.0007	.0005	-.0015	-.0009	-.0015	-.0046	.0007
#3	-.0003	.0006	-.0000	.0006	.0011	-.0021	-.0034	.0017

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	F **409.1**	**-.0078**	**-.0198**	**-.1662**	**-.0030**	**-.0001**	**-.0009**
Stddev	.0084	.3	.0032	.0119	.0094	.0052	.0001	.0002
%RSD	516.3	.0828	40.19	60.05	5.674	169.3	82.76	18.74
#1	.0092	408.8	-.0045	-.0062	-.1584	.0024	-.0002	-.0010
#2	-.0075	409.4	-.0108	-.0251	-.1767	-.0078	-.0000	-.0007
#3	.0032	409.2	-.0082	-.0282	-.1636	-.0038	-.0001	-.0011

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0068**	**-.0011**	W **-.0026**	**-.0010**	**.0015**	**.0001**	**.0171**	**-.0001**
Stddev	.0018	.0005	.0000	.0001	.0011	.0001	.0012	.0008
%RSD	25.74	42.96	1.010	15.31	75.46	151.0	7.280	769.6
#1	.0049	-.0015	-.0026	-.0009	.0002	.0002	.0179	-.0001
#2	.0083	-.0006	-.0026	-.0011	.0025	-.0000	.0156	-.0009
#3	.0073	-.0012	-.0026	-.0008	.0019	.0001	.0176	.0007

Zoom In Zoom Out

Sample Name: caconf Acquired: 4/18/2019 17:46:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	W **-.0137**	**.0057**
Stddev	.0004	.0010
%RSD	2.584	18.54
#1	-.0133	.0050
#2	-.0139	.0069
#3	-.0140	.0051

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**92125.**	**4891.1**	**3336.4**	**7023.8**
Stddev	160.	11.3	5.1	7.8
%RSD	.17346	.23167	.15217	.11079
#1	91943.	4882.1	3330.7	7014.8
#2	92242.	4887.4	3340.3	7028.0
#3	92190.	4903.8	3338.2	7028.6

Zoom In Zoom Out

Sample Name: alconf Acquired: 4/18/2019 17:52:10 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0013**	**-.0000**	**-.0001**	**-.0001**	**.0001**	**-.0001**	**-.0010**	**-.0007**
Stddev	.0001	.0001	.0001	.0003	.0001	.0004	.0001	.0003
%RSD	9.512	138.6	128.5	237.7	100.1	630.0	5.250	37.48
#1	-.0012	-.0000	-.0002	-.0004	.0000	-.0002	-.0009	-.0005
#2	-.0014	-.0001	-.0001	.0001	.0001	-.0003	-.0010	-.0010
#3	-.0012	-.0000	.0000	-.0001	.0003	.0004	-.0010	-.0006

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0014**	**-.0002**	**-.0001**	**.0011**	**.0001**	**.0004**	**-.0017**	**.0008**
Stddev	.0006	.0003	.0002	.0010	.0015	.0014	.0042	.0047
%RSD	40.10	114.6	223.7	95.71	2751.	369.8	240.2	591.8
#1	-.0018	.0001	-.0002	.0009	-.0014	.0019	.0030	.0008
#2	-.0016	-.0004	.0001	.0002	.0015	-.0000	-.0033	-.0039
#3	-.0008	-.0003	-.0002	.0022	.0001	-.0008	-.0050	.0054

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **492.1**	**-.0021**	**.0048**	**-.0009**	**-.1459**	**.0036**	**-.0023**	**-.0015**
Stddev	4.1	.0048	.0046	.0323	.0206	.0125	.0008	.0002
%RSD	.8395	227.7	96.73	3574.	14.11	346.5	32.92	13.16
#1	494.7	-.0059	.0081	-.0306	-.1462	.0005	-.0018	-.0013
#2	487.3	-.0037	.0068	.0334	-.1251	.0173	-.0031	-.0014
#3	494.2	.0033	-.0005	-.0056	-.1663	-.0070	-.0019	-.0017

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0052**	**-.0012**	**.0002**	**-.0001**	**.0057**	**-.0000**	W **-.0286**	**-.0021**
Stddev	.0018	.0005	.0001	.0003	.0012	.0002	.0023	.0018
%RSD	35.01	46.88	55.35	491.6	21.40	1185.	8.131	85.07
#1	-.0034	-.0017	.0002	-.0001	.0050	.0001	-.0275	-.0041
#2	-.0071	-.0006	.0003	.0003	.0072	-.0002	-.0312	-.0020
#3	-.0051	-.0012	.0001	-.0003	.0051	.0001	-.0269	-.0004

Zoom In Zoom Out

Sample Name: alconf Acquired: 4/18/2019 17:52:10 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0017**	**.0157**
Stddev	.0010	.0014
%RSD	57.90	8.951
#1	.0008	.0161
#2	.0014	.0142
#3	.0027	.0169

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**95619.**	**5318.0**	**3778.7**	**7314.2**
Stddev	172.	39.3	2.1	1.4
%RSD	.17940	.73978	.05472	.01919
#1	95421.	5296.8	3776.4	7312.7
#2	95711.	5363.4	3779.6	7314.5
#3	95725.	5293.8	3780.2	7315.4

Zoom In Zoom Out

Sample Name: moconf Acquired: 4/18/2019 17:57:37 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0003**	**.0000**	**.0025**	**-.0018**	**-.0011**	**-.0005**	**-.0002**
Stddev	.0001	.0002	.0001	.0001	.0003	.0003	.0000	.0002
%RSD	32.18	46.98	269.4	5.475	16.80	23.35	7.585	63.93
#1	-.0003	-.0002	-.0001	.0026	-.0015	-.0009	-.0005	-.0002
#2	-.0003	-.0004	.0001	.0027	-.0017	-.0014	-.0004	-.0001
#3	-.0005	-.0004	.0001	.0024	-.0021	-.0010	-.0005	-.0004

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0002**	**-.0012**	**-.0008**	**-.0019**	**.0004**	**-.0021**	F **-.0066**
Stddev	.0004	.0028	.0002	.0012	.0013	.0006	.0005	.0004
%RSD	229.0	1520.	15.48	158.4	69.71	155.6	21.91	5.911
#1	-.0002	.0018	-.0012	-.0014	-.0012	-.0001	-.0016	-.0068
#2	.0003	.0010	-.0014	-.0015	-.0011	.0001	-.0025	-.0062
#3	-.0006	-.0033	-.0010	.0006	-.0035	.0011	-.0021	-.0069

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0132**	**.0047**	**.0028**	**.0210**	**.0107**	**.0321**	**.0231**	F **10.80**
Stddev	.0083	.0021	.0041	.0484	.0219	.0040	.0017	.22
%RSD	62.43	45.46	144.5	230.1	203.6	12.40	7.487	2.079
#1	.0135	.0023	-.0016	.0588	.0322	.0362	.0249	10.93
#2	.0048	.0065	.0037	.0379	-.0115	.0283	.0228	10.93
#3	.0213	.0051	.0064	-.0336	.0114	.0318	.0215	10.54

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0055**	**.0003**	**.0000**	**.0006**	**.0053**	**.0054**	**.0034**	**-.0015**
Stddev	.0007	.0007	.0000	.0003	.0004	.0001	.0018	.0006
%RSD	13.03	262.9	91.41	45.29	7.753	2.726	53.04	41.04
#1	.0064	-.0002	.0000	.0007	.0056	.0053	.0052	-.0022
#2	.0050	-.0001	.0000	.0003	.0049	.0053	.0016	-.0011
#3	.0052	.0011	-.0000	.0009	.0056	.0055	.0033	-.0012

Zoom In Zoom Out

Sample Name: moconf Acquired: 4/18/2019 17:57:37 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0011**	**.0104**
Stddev	.0019	.0008
%RSD	179.7	7.999
#1	.0031	.0098
#2	-.0007	.0113
#3	.0008	.0100

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100750.**	**5049.6**	**3696.2**	**8352.2**
Stddev	241.	34.8	63.6	126.8
%RSD	.23876	.68856	1.7201	1.5181
#1	100940.	5009.5	3658.2	8277.0
#2	100480.	5070.1	3660.7	8281.0
#3	100830.	5069.3	3769.6	8498.6

Zoom In Zoom Out

Sample Name: ticonf Acquired: 4/18/2019 18:03:03 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**-.0000**	**-.0005**	**.0003**	**.0021**	**-.0001**	**.0002**	**.0014**
Stddev	.0003	.0001	.0001	.0002	.0001	.0004	.0000	.0001	.0002
%RSD	139.4	151.2	252.0	30.21	25.19	20.23	64.31	61.24	15.51
#1	-.0004	-.0001	-.0000	-.0006	.0003	.0023	-.0001	.0002	.0016
#2	.0001	.0002	-.0001	-.0004	.0003	.0024	-.0000	.0003	.0013
#3	-.0002	.0001	.0000	-.0007	.0004	.0016	-.0001	.0001	.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0005**	**.0007**	**.0020**	**-.0011**	**-.0009**	**-.0020**	**.0064**	**.0939**
Stddev	.0001	.0001	.0007	.0007	.0005	.0007	.0016	.0062	.0044
%RSD	5446.	12.56	104.9	34.53	46.71	77.30	81.25	97.40	4.734
#1	-.0001	-.0006	.0004	.0025	-.0011	-.0002	-.0004	.0132	.0974
#2	.0001	-.0005	.0016	.0012	-.0006	-.0008	-.0036	.0011	.0955
#3	-.0000	-.0004	.0002	.0022	-.0016	-.0016	-.0019	.0048	.0889

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0012**	**-.0507**	**.0156**	**.0114**	**.0014**	**.0010**	**-.0021**	**-.0008**	**.0002**
Stddev	.0082	.0266	.0136	.0037	.0007	.0002	.0008	.0004	.0001
%RSD	695.9	52.51	87.22	32.60	47.55	22.59	40.03	51.12	69.92
#1	-.0035	-.0626	.0303	.0089	.0021	.0012	-.0030	-.0003	.0000
#2	.0106	-.0694	.0035	.0156	.0009	.0010	-.0018	-.0011	.0003
#3	-.0036	-.0202	.0130	.0095	.0011	.0007	-.0014	-.0010	.0003

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **10.17**	**.0012**	**.0013**	**.0004**	**-.0039**	**-.0004**	**.0090**
Stddev	.00	.0006	.0000	.0035	.0010	.0009	.0010
%RSD	.0323	49.89	2.884	979.4	25.15	243.8	10.88
#1	10.17	.0007	.0013	-.0008	-.0035	-.0011	.0096
#2	10.17	.0019	.0013	.0043	-.0050	-.0006	.0096
#3	10.18	.0011	.0012	-.0024	-.0031	.0006	.0079

Zoom In Zoom Out

Sample Name: ticonf Acquired: 4/18/2019 18:03:03 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100830.**	**5076.4**	**3666.7**	**8214.6**
Stddev	141.	24.6	5.4	7.3
%RSD	.14005	.48473	.14824	.08882
#1	100780.	5079.4	3672.1	8220.5
#2	100990.	5099.4	3661.3	8206.4
#3	100720.	5050.5	3666.6	8216.8

Zoom In Zoom Out

Sample Name: vconf Acquired: 4/18/2019 18:08:35 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**-.0009**	**-.0006**	**-.0001**	**-.0004**	**.0001**	**-.0001**	**.0005**
Stddev	.0001	.0000	.0001	.0001	.0003	.0003	.0001	.0002
%RSD	14.98	5.371	25.06	86.28	66.78	581.2	60.93	33.92
#1	.0003	-.0010	-.0005	-.0003	-.0003	.0004	-.0001	.0003
#2	.0005	-.0010	-.0005	-.0001	-.0002	-.0001	-.0002	.0007
#3	.0004	-.0009	-.0007	-.0000	-.0007	-.0002	-.0001	.0005

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0028**	F **10.84**	**.0009**	**-.0003**	F **-.0040**	**-.0024**	**-.0011**	**.0005**
Stddev	.0005	.01	.0000	.0003	.0017	.0016	.0011	.0009
%RSD	17.21	.1013	4.682	89.97	43.08	68.97	103.3	167.6
#1	.0033	10.85	.0009	-.0006	-.0060	-.0012	-.0018	.0015
#2	.0028	10.84	.0010	-.0001	-.0031	-.0017	-.0018	.0003
#3	.0023	10.83	.0009	-.0002	-.0029	-.0042	.0002	-.0002

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0110**	**.0181**	**.0017**	**.0117**	**.0003**	**.0874**	**.0265**	**.0006**
Stddev	.0077	.0069	.0008	.0323	.0546	.0111	.0001	.0002
%RSD	70.32	38.00	46.05	276.5	17140.	12.65	.4015	40.30
#1	.0021	.0260	.0025	-.0115	-.0554	.1001	.0265	.0008
#2	.0153	.0154	.0009	-.0020	.0028	.0824	.0264	.0003
#3	.0155	.0130	.0016	.0486	.0536	.0798	.0266	.0007

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3632**	**.0021**	**.0001**	**.0002**	**.0017**	**-.0009**	**-.0004**	**-.0016**
Stddev	.0002	.0004	.0001	.0000	.0009	.0001	.0024	.0007
%RSD	.0545	19.16	136.8	15.00	54.24	12.73	562.7	42.90
#1	.3630	.0024	.0001	.0002	.0018	-.0010	-.0001	-.0021
#2	.3632	.0017	.0001	.0002	.0008	-.0009	-.0030	-.0008
#3	.3633	.0020	-.0000	.0002	.0026	-.0008	.0018	-.0018

Zoom In Zoom Out

Sample Name: vconf Acquired: 4/18/2019 18:08:35 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0016**	**.0028**
Stddev	.0012	.0001
%RSD	75.98	3.669
#1	.0004	.0027
#2	.0016	.0029
#3	.0029	.0027

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100910.**	**5071.3**	**3677.0**	**8231.6**
Stddev	224.	25.8	8.4	13.2
%RSD	.22247	.50781	.22831	.15984
#1	100720.	5058.4	3667.5	8216.4
#2	100850.	5100.9	3680.1	8239.7
#3	101160.	5054.5	3683.4	8238.6

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/18/2019 18:14:05 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0003**	**-.0003**	**.0003**	**-.0001**	W **-.0054**	**-.0001**	**.0003**
Stddev	.0001	.0001	.0001	.0000	.0002	.0001	.0000	.0000
%RSD	40.21	29.55	38.30	14.75	135.0	1.101	17.41	7.266
#1	-.0005	-.0002	-.0002	.0002	.0001	-.0054	-.0001	.0004
#2	-.0004	-.0003	-.0004	.0003	-.0001	-.0055	-.0001	.0003
#3	-.0002	-.0003	-.0002	.0003	-.0003	-.0054	-.0001	.0003

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0031**	**.0001**	**-.0000**	**.0023**	**.0014**	**.0001**	**-.0022**	**.0019**
Stddev	.0002	.0001	.0000	.0008	.0004	.0002	.0003	.0007
%RSD	7.728	77.39	1647.	33.11	29.87	321.2	13.44	33.84
#1	-.0032	.0000	.0000	.0014	.0019	.0001	-.0021	.0026
#2	-.0028	.0001	.0000	.0027	.0013	-.0001	-.0019	.0018
#3	-.0033	.0002	-.0001	.0028	.0010	.0002	-.0025	.0014

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0042**	**-.0015**	**-.0018**	**.0164**	**-.0352**	**-.0256**	**-.0002**	**-.0001**
Stddev	.0022	.0050	.0017	.0408	.0166	.0045	.0004	.0001
%RSD	52.52	323.5	91.47	248.4	47.22	17.60	175.0	104.3
#1	.0061	-.0054	-.0005	.0491	-.0327	-.0204	-.0006	-.0002
#2	.0048	.0041	-.0037	.0294	-.0200	-.0279	-.0002	-.0002
#3	.0018	-.0033	-.0013	-.0293	-.0530	-.0285	.0002	.0000

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0055**	**-.0007**	**.0000**	**-.0003**	**-.0015**	**.0001**	**.0078**	**.0001**
Stddev	.0001	.0001	.0001	.0001	.0003	.0001	.0006	.0004
%RSD	1.617	14.61	260.2	30.74	22.32	57.81	7.952	377.1
#1	-.0054	-.0007	.0002	-.0003	-.0017	.0001	.0074	.0005
#2	-.0055	-.0005	.0000	-.0003	-.0017	.0002	.0086	-.0001
#3	-.0056	-.0007	-.0001	-.0002	-.0011	.0001	.0076	-.0002

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/18/2019 18:14:05 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0023**	**-.0007**
Stddev	.0003	.0005
%RSD	12.68	70.78
#1	-.0021	-.0002
#2	-.0026	-.0011
#3	-.0021	-.0007

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**227180.**	**8325.5**	**10118.**	**22265.**
Stddev	1649.	104.0	32.	57.
%RSD	.72570	1.2491	.31813	.25378
#1	228590.	8208.1	10082.	22203.
#2	225370.	8406.2	10128.	22278.
#3	227600.	8362.2	10144.	22313.

Zoom In Zoom Out

Sample Name: snconf Acquired: 4/18/2019 18:19:39 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0002**	**-.0002**	**-.0000**	**.0002**	**.0010**	**.0001**	**-.0006**	**-.0004**
Stddev	.0001	.0001	.0001	.0000	.0003	.0002	.0000	.0000	.0004
%RSD	228.0	41.83	31.67	95.24	187.6	17.92	26.65	7.243	89.41
#1	-.0002	-.0002	-.0003	.0000	-.0002	.0011	.0001	-.0005	-.0001
#2	-.0001	-.0003	-.0001	-.0001	.0003	.0008	.0001	-.0006	-.0004
#3	.0001	-.0001	-.0003	-.0001	.0004	.0012	.0002	-.0006	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0040**	**.0022**	**.0006**	**-.0003**	**-.0014**	**.0030**	**.0070**	**.0817**
Stddev	.0002	.0001	.0007	.0006	.0004	.0007	.0012	.0107	.0032
%RSD	76.39	3.189	30.49	93.54	139.8	47.36	40.91	153.3	3.897
#1	.0000	.0040	.0021	.0006	-.0008	-.0013	.0026	.0191	.0783
#2	.0003	.0039	.0029	.0000	.0001	-.0021	.0043	-.0009	.0821
#3	.0003	.0041	.0016	.0012	-.0002	-.0008	.0020	.0027	.0846

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0080**	**-.0279**	**.0313**	**.0082**	**.0050**	**.0001**	**.0486**	F **10.83**	**.0001**
Stddev	.0068	.0106	.0250	.0090	.0006	.0001	.0016	.04	.0001
%RSD	84.91	38.09	79.83	108.6	11.24	82.02	3.325	.3360	46.86
#1	.0103	-.0271	.0401	.0074	.0044	.0001	.0504	10.87	.0001
#2	.0132	-.0177	.0507	-.0003	.0051	.0000	.0482	10.84	.0001
#3	.0003	-.0390	.0031	.0176	.0055	.0002	.0472	10.79	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0009**	**.0046**	**.0039**	**-.0006**	**.0003**	**.0095**
Stddev	.0002	.0005	.0002	.0007	.0009	.0010	.0005
%RSD	176.4	57.15	4.167	18.39	139.5	405.3	5.574
#1	-.0004	-.0003	.0047	.0041	-.0009	-.0005	.0100
#2	.0000	-.0010	.0047	.0045	-.0013	-.0002	.0094
#3	.0000	-.0013	.0044	.0031	.0003	.0014	.0090

Zoom In Zoom Out

Sample Name: snconf Acquired: 4/18/2019 18:19:39 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99679.**	**4994.3**	**3667.9**	**8237.7**
Stddev	345.	32.0	9.8	19.4
%RSD	.34634	.64015	.26690	.23551
#1	99294.	4959.1	3667.0	8237.1
#2	99781.	5021.5	3658.6	8218.7
#3	99962.	5002.3	3678.1	8257.4

Zoom In Zoom Out

Sample Name: sconf Acquired: 4/18/2019 18:25:10 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0001**	**.0000**	**-.0000**	**.0004**	**-.0006**	**-.0001**	**-.0000**
Stddev	.0002	.0001	.0001	.0001	.0002	.0004	.0000	.0002
%RSD	498.3	68.52	17850.	272.5	43.61	65.02	48.84	973.0
#1	-.0001	-.0001	.0001	-.0001	.0005	-.0008	-.0001	.0002
#2	.0003	-.0002	.0001	-.0000	.0002	-.0001	-.0000	-.0001
#3	-.0000	-.0001	-.0002	.0000	.0003	-.0008	-.0001	-.0001

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0018**	**.0002**	**.0002**	**-.0004**	F **-.0026**	**.0003**	**.0005**	**-.0001**
Stddev	.0003	.0002	.0001	.0004	.0012	.0005	.0006	.0006
%RSD	17.86	65.71	46.66	106.7	45.19	139.2	140.7	410.7
#1	-.0021	.0001	.0002	-.0001	-.0018	.0008	.0004	.0000
#2	-.0015	.0003	.0002	-.0002	-.0020	-.0002	-.0001	-.0008
#3	-.0017	.0004	.0004	-.0009	-.0040	.0004	.0011	.0003

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040**	**.0708**	**-.0054**	**.0146**	**.0140**	**.0029**	**.0001**	**.0000**
Stddev	.0096	.0036	.0027	.0222	.0419	.0118	.0006	.0002
%RSD	241.2	5.034	50.42	152.0	299.9	407.1	641.9	580.2
#1	-.0026	.0723	-.0023	.0273	-.0344	-.0051	.0007	.0002
#2	.0150	.0734	-.0064	.0276	.0377	.0164	-.0004	-.0001
#3	-.0005	.0667	-.0073	-.0110	.0386	-.0026	-.0001	.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040**	**-.0003**	**.0001**	**-.0001**	**.0001**	**.0001**	F **104.5**	**-.0021**
Stddev	.0003	.0003	.0001	.0001	.0013	.0000	.4	.0003
%RSD	8.142	112.0	67.06	90.95	954.6	78.77	.3425	15.45
#1	.0040	-.0005	.0002	-.0000	-.0014	.0001	104.8	-.0024
#2	.0043	.0001	.0001	-.0001	.0009	.0000	104.1	-.0019
#3	.0036	-.0004	.0001	-.0001	.0009	.0000	104.7	-.0019

Zoom In Zoom Out

Sample Name: sconf Acquired: 4/18/2019 18:25:10 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0003**	**.0092**
Stddev	.0014	.0010
%RSD	533.2	10.62
#1	.0016	.0092
#2	-.0012	.0102
#3	.0004	.0083

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100930.**	**5069.0**	**3681.1**	**8281.2**
Stddev	220.	13.2	4.0	6.5
%RSD	.21839	.25998	.10988	.07793
#1	100850.	5058.1	3677.6	8273.7
#2	100760.	5065.3	3685.5	8284.4
#3	101180.	5083.6	3680.1	8285.4

Zoom In Zoom Out

Sample Name: siconf Acquired: 4/18/2019 18:30:40 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0001**	**-.0001**	**-.0003**	**-.0001**	**-.0006**	**-.0005**	**.0002**	**-.0015**
Stddev	.0002	.0001	.0002	.0001	.0004	.0003	.0000	.0001	.0002
%RSD	52.84	123.3	200.3	28.39	573.3	45.33	6.099	51.62	10.26
#1	-.0004	-.0002	.0001	-.0004	-.0002	-.0006	-.0005	.0001	-.0016
#2	-.0001	.0000	-.0003	-.0002	-.0005	-.0008	-.0005	.0002	-.0014
#3	-.0003	-.0002	-.0001	-.0002	.0004	-.0003	-.0005	.0003	-.0014

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0005**	**.0004**	**-.0009**	**-.0020**	**-.0031**	**.0007**	**-.0078**	**.0034**
Stddev	.0002	.0001	.0005	.0002	.0006	.0015	.0008	.0145	.0004
%RSD	171.2	18.15	128.9	20.68	27.09	47.76	124.5	186.5	10.70
#1	-.0001	-.0006	.0003	-.0009	-.0014	-.0043	.0003	.0068	.0038
#2	.0001	-.0004	.0009	-.0011	-.0021	-.0036	.0001	-.0080	.0033
#3	.0003	-.0005	-.0001	-.0008	-.0025	-.0014	.0016	-.0221	.0031

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0092**	**.0089**	**.0030**	**.0086**	**.0007**	**-.0001**	**11.28**	**-.0007**	**.0000**
Stddev	.0119	.0415	.0354	.0083	.0006	.0001	.02	.0002	.0000
%RSD	129.1	464.1	1194.	97.33	84.11	158.5	.1383	27.39	108.3
#1	.0077	-.0327	.0050	.0072	.0006	.0000	11.28	-.0008	.0001
#2	.0219	.0093	-.0334	.0175	.0012	-.0000	11.29	-.0006	-.0000
#3	-.0018	.0502	.0372	.0010	.0001	-.0002	11.26	-.0005	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0006**	**.0098**	**-.0003**	**.0102**	**-.0017**	**-.0012**	**.0082**
Stddev	.0003	.0004	.0003	.0017	.0013	.0021	.0004
%RSD	53.73	3.964	94.50	16.24	73.63	173.3	5.316
#1	-.0004	.0100	.0000	.0095	-.0029	.0009	.0087
#2	-.0009	.0100	-.0005	.0121	-.0004	-.0033	.0081
#3	-.0004	.0093	-.0004	.0091	-.0019	-.0012	.0079

Zoom In Zoom Out

Sample Name: siconf Acquired: 4/18/2019 18:30:40 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101950.**	**5092.6**	**3692.5**	**8269.1**
Stddev	1736.	40.1	4.4	7.3
%RSD	1.7026	.78649	.11790	.08876
#1	101020.	5070.7	3694.8	8263.8
#2	100870.	5068.2	3687.5	8266.0
#3	103950.	5138.8	3695.3	8277.5

Zoom In Zoom Out

Sample Name: coconf Acquired: 4/18/2019 18:36:10 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0023**	F **10.77**	**.0002**	**.0001**	**-.0001**	**.0005**
Stddev	.0003	.0000	.0002	.01	.0004	.0003	.0001	.0002
%RSD	496.0	81.03	6.772	.1033	248.7	249.4	100.2	43.49
#1	-.0004	.0000	.0024	10.76	.0001	.0003	-.0002	.0004
#2	.0003	.0001	.0022	10.78	.0006	-.0002	-.0001	.0004
#3	-.0001	.0001	.0021	10.77	-.0002	.0003	-.0000	.0008

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0016**	**.0001**	**.0004**	**.0017**	F **-.0030**	**-.0013**	**-.0003**	**.0004**
Stddev	.0001	.0002	.0001	.0011	.0006	.0009	.0014	.0015
%RSD	6.168	162.2	28.85	62.08	20.72	69.58	457.0	405.1
#1	-.0016	.0001	.0005	.0020	-.0025	-.0005	-.0003	-.0010
#2	-.0017	-.0001	.0005	.0005	-.0037	-.0023	.0011	.0020
#3	-.0016	.0003	.0003	.0026	-.0028	-.0010	-.0017	.0001

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0090**	**.0174**	**.0056**	**.0003**	**-.0282**	**.0077**	**-.0008**	**-.0001**
Stddev	.0057	.0015	.0023	.0120	.0113	.0033	.0004	.0002
%RSD	63.06	8.528	41.31	4432.	40.22	43.37	47.67	280.9
#1	-.0090	.0163	.0031	-.0061	-.0289	.0111	-.0006	-.0002
#2	-.0034	.0191	.0059	.0141	-.0165	.0044	-.0005	.0002
#3	-.0148	.0168	.0077	-.0073	-.0392	.0076	-.0012	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**-.0002**	**.0000**	**-.0007**	**-.0022**	**.0001**	**.0070**	**.0130**
Stddev	.0007	.0004	.0001	.0003	.0008	.0001	.0009	.0002
%RSD	80.73	178.7	354.8	45.30	35.62	93.17	12.25	1.926
#1	.0016	-.0007	.0000	-.0011	-.0022	.0001	.0064	.0131
#2	.0010	.0001	-.0001	-.0005	-.0030	.0000	.0065	.0131
#3	.0001	-.0001	.0001	-.0006	-.0014	.0001	.0080	.0127

Zoom In Zoom Out

Sample Name: coconf Acquired: 4/18/2019 18:36:10 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0003**	**.0096**
Stddev	.0022	.0013
%RSD	771.9	13.21
#1	.0021	.0102
#2	-.0009	.0081
#3	-.0020	.0104

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100290.**	**5073.9**	**3670.1**	**8297.0**
Stddev	280.	27.5	6.9	16.1
%RSD	.27911	.54152	.18854	.19451
#1	100010.	5096.3	3677.8	8314.7
#2	100300.	5082.2	3664.5	8283.1
#3	100570.	5043.3	3667.9	8293.2

Zoom In Zoom Out

Sample Name: niconf Acquired: 4/18/2019 18:41:41 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0002**	W **-.0017**	**.0004**	**.0001**	**-.0003**	**-.0003**	F **10.24**
Stddev	.0001	.0000	.0001	.0002	.0000	.0002	.0000	.02
%RSD	159.0	22.61	7.426	56.08	62.62	52.11	9.193	.2130
#1	-.0000	-.0002	-.0016	.0001	.0001	-.0002	-.0004	10.27
#2	.0002	-.0002	-.0018	.0006	.0000	-.0005	-.0003	10.23
#3	.0001	-.0002	-.0017	.0005	.0000	-.0004	-.0003	10.23

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0014**	**.0004**	**.0003**	**.0004**	**.0002**	**-.0013**	**-.0013**	**.0021**
Stddev	.0001	.0002	.0000	.0001	.0004	.0002	.0011	.0001
%RSD	4.553	50.91	12.14	36.05	175.9	15.69	88.05	6.804
#1	-.0015	.0006	.0004	.0002	.0005	-.0015	-.0011	.0020
#2	-.0015	.0004	.0003	.0005	.0003	-.0014	-.0003	.0022
#3	-.0014	.0002	.0003	.0004	-.0002	-.0011	-.0025	.0022

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0012**	**.0193**	**.0032**	**.0203**	**-.0131**	**.0059**	**-.0004**	**-.0000**
Stddev	.0075	.0034	.0042	.0227	.0495	.0067	.0002	.0002
%RSD	617.8	17.66	133.2	111.6	378.8	114.0	50.94	1781.
#1	-.0068	.0220	.0079	.0464	.0431	.0127	-.0003	-.0003
#2	.0073	.0203	-.0002	.0049	-.0503	.0058	-.0007	.0000
#3	-.0042	.0155	.0017	.0098	-.0320	-.0008	-.0003	.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0021**	**-.0003**	**.0000**	**.0001**	**.0015**	**.0001**	**-.0019**	**-.0012**
Stddev	.0008	.0005	.0001	.0001	.0000	.0001	.0015	.0003
%RSD	38.53	187.5	196.6	129.6	2.994	151.8	82.68	27.95
#1	.0016	-.0004	.0001	.0002	.0015	-.0000	-.0001	-.0015
#2	.0017	.0003	.0001	.0001	.0015	.0001	-.0026	-.0009
#3	.0030	-.0006	-.0000	-.0000	.0015	.0001	-.0029	-.0011

Zoom In Zoom Out

Sample Name: niconf Acquired: 4/18/2019 18:41:41 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0006**	**.0185**
Stddev	.0014	.0007
%RSD	225.9	3.778
#1	-.0017	.0192
#2	-.0013	.0183
#3	.0010	.0179

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99580.**	**5047.8**	**3664.0**	**8250.0**
Stddev	350.	12.5	9.9	23.0
%RSD	.35138	.24734	.26884	.27928
#1	99199.	5056.6	3654.1	8225.3
#2	99655.	5053.4	3664.2	8253.9
#3	99887.	5033.5	3673.8	8270.9

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 18:47:14 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.966**	**1.982**	**1.950**	**1.995**	**1.947**	**1.902**	**1.950**	**1.968**	**.2382**
Stddev	.020	.021	.112	.111	.072	.063	.067	.109	.0075
%RSD	1.026	1.051	5.723	5.579	3.709	3.308	3.437	5.517	3.131
#1	1.945	1.960	2.019	2.062	2.027	1.973	2.026	2.033	.2467
#2	1.968	1.983	1.821	1.866	1.925	1.877	1.927	1.843	.2352
#3	1.985	2.002	2.009	2.055	1.888	1.855	1.898	2.029	.2327
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.916**	**1.974**	**1.966**	**2.032**	**1.999**	**1.984**	**2.008**	**38.88**	**39.77**
Stddev	.065	.115	.116	.111	.112	.116	.119	.36	.45
%RSD	3.399	5.822	5.882	5.482	5.577	5.859	5.940	.9296	1.121
#1	1.990	2.045	2.039	2.100	2.070	2.056	2.082	38.50	39.36
#2	1.892	1.842	1.833	1.904	1.871	1.850	1.870	38.92	39.71
#3	1.867	2.037	2.027	2.094	2.058	2.047	2.071	39.22	40.25
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.72**	**38.76**	**39.13**	**39.76**	**2.041**	**1.985**	**5.106**	**1.995**	**2.004**
Stddev	.42	.46	.46	.44	.117	.115	.296	.116	.022
%RSD	1.048	1.175	1.183	1.118	5.738	5.776	5.798	5.835	1.080
#1	39.30	38.27	38.64	39.33	2.115	2.057	5.288	2.067	1.982
#2	39.74	38.84	39.19	39.73	1.906	1.853	4.765	1.861	2.006
#3	40.13	39.17	39.56	40.22	2.102	2.045	5.266	2.058	2.025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 18:47:14 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.890**	**1.945**	**1.905**	**2.010**	**2.051**	**1.943**	**1.968**
Stddev	.065	.112	.066	.117	.120	.023	.116
%RSD	3.445	5.775	3.452	5.847	5.859	1.178	5.869
#1	1.963	2.014	1.980	2.082	2.125	1.919	2.041
#2	1.868	1.815	1.882	1.874	1.912	1.944	1.835
#3	1.838	2.006	1.855	2.074	2.116	1.965	2.027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**97309.**	**5096.9**	**3615.9**	**7515.0**
Stddev	2782.	64.1	185.4	366.5
%RSD	2.8587	1.2571	5.1268	4.8773
#1	94192.	5158.5	3501.6	7291.1
#2	98195.	5101.7	3829.8	7938.0
#3	99539.	5030.6	3516.4	7315.9

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 18:52:16 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0000**	**-.0002**	**.0001**	**.0001**	**-.0007**	**-.0001**	**.0001**	**-.0016**
Stddev	.0003	.0001	.0002	.0003	.0002	.0001	.0001	.0003	.0002
%RSD	1508.	18000.	91.51	370.6	276.4	7.035	155.9	247.9	10.01
#1	.0003	-.0001	-.0001	.0002	.0001	-.0008	.0000	.0003	-.0016
#2	.0001	.0000	-.0001	-.0003	-.0001	-.0007	-.0002	-.0002	-.0015
#3	-.0003	.0000	-.0004	.0003	.0002	-.0007	-.0000	.0003	-.0018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0001**	**.0004**	**-.0000**	**-.0008**	**-.0008**	**-.0002**	**.0085**	**.0014**
Stddev	.0001	.0001	.0009	.0004	.0001	.0016	.0007	.0092	.0060
%RSD	59.50	101.1	231.2	1724.	16.83	205.9	354.9	108.1	429.1
#1	.0002	-.0001	-.0005	.0004	-.0007	-.0006	-.0010	.0014	.0056
#2	.0001	.0000	.0003	-.0001	-.0008	.0007	.0001	.0189	-.0055
#3	.0004	-.0002	.0014	-.0004	-.0010	-.0024	.0003	.0052	.0041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0033**	**.0150**	**.0276**	**.0115**	**.0007**	**.0002**	**.0018**	**-.0000**	**.0000**
Stddev	.0020	.0065	.0339	.0106	.0002	.0002	.0003	.0002	.0000
%RSD	60.02	43.31	122.8	91.86	23.68	105.1	15.26	1638.	74.77
#1	.0052	.0221	.0497	.0179	.0009	.0001	.0015	-.0003	.0001
#2	.0036	.0133	-.0114	-.0007	.0005	.0005	.0021	.0002	.0000
#3	.0012	.0094	.0445	.0173	.0008	.0001	.0018	.0000	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 18:52:16 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0000**	**.0001**	**.0032**	**-.0010**	**.0014**	**.0094**
Stddev	.0002	.0008	.0001	.0009	.0004	.0012	.0003
%RSD	329.6	3046.	183.6	28.39	39.39	86.22	2.920
#1	-.0004	.0008	-.0001	.0023	-.0014	.0024	.0093
#2	.0000	-.0008	.0002	.0031	-.0010	.0016	.0097
#3	.0001	-.0001	.0001	.0041	-.0006	.0001	.0093
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101070.**	**5086.6**	**3675.5**	**8273.1**
Stddev	289.	30.8	4.0	11.1
%RSD	.28581	.60527	.10875	.13374
#1	100790.	5122.1	3677.3	8281.1
#2	101040.	5070.5	3670.9	8260.5
#3	101370.	5067.2	3678.2	8277.8

Zoom In Zoom Out

Sample Name: jc86331-7 Acquired: 4/18/2019 18:57:48 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2783**	**.0024**	**.0021**	**.0516**	**.1298**	**.1371**	**1.666**	**.1004**	**-.0022**
Stddev	.0005	.0000	.0001	.0002	.0007	.0001	.001	.0003	.0001
%RSD	.1752	.8590	6.645	.4552	.5436	.1089	.0534	.3203	5.788
#1	.2787	.0024	.0019	.0517	.1290	.1372	1.666	.1000	-.0022
#2	.2783	.0024	.0020	.0513	.1302	.1370	1.665	.1005	-.0021
#3	.2777	.0024	.0022	.0518	.1302	.1370	1.666	.1006	-.0024

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0622**	**3.315**	**.0435**	**.0009**	**.3862**	**.0010**	**.0004**	**37.87**	**8.447**
Stddev	.0000	.011	.0007	.0008	.0014	.0008	.0004	.06	.024
%RSD	.0645	.3246	1.562	94.13	.3586	76.65	93.47	.1643	.2885
#1	.0622	3.314	.0431	.0014	.3857	.0010	.0009	37.90	8.457
#2	.0622	3.326	.0443	.0014	.3877	.0002	.0002	37.80	8.465
#3	.0622	3.305	.0430	-.0001	.3851	.0018	.0002	37.91	8.419

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**91.46**	**13.38**	**5.248**	**.3105**	**.0161**	**.0024**	**1.415**	**.0483**	**.0379**
Stddev	.41	.09	.020	.0052	.0003	.0001	.021	.0004	.0001
%RSD	.4507	.6421	.3717	1.670	1.627	5.915	1.510	.8111	.2564
#1	91.57	13.42	5.231	.3159	.0160	.0024	1.431	.0480	.0379
#2	91.80	13.44	5.269	.3100	.0159	.0025	1.424	.0487	.0380
#3	91.00	13.28	5.245	.3056	.0164	.0022	1.391	.0480	.0379

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7803**	**.0055**	**.0344**	**8.252**	**.0009**	**.0831**	**1.356**
Stddev	.0006	.0004	.0002	.016	.0006	.0014	.004
%RSD	.0826	6.675	.4684	.1967	60.33	1.703	.2953
#1	.7797	.0059	.0344	8.234	.0015	.0817	1.352
#2	.7810	.0053	.0346	8.262	.0004	.0845	1.355
#3	.7803	.0052	.0343	8.262	.0009	.0831	1.360

Zoom In Zoom Out

Sample Name: jc86331-7 Acquired: 4/18/2019 18:57:48 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101290.**	**5269.7**	**3726.1**	**7946.6**
Stddev	203.	37.7	7.8	11.6
%RSD	.20035	.71516	.20859	.14652
#1	101420.	5242.8	3733.4	7957.3
#2	101410.	5253.6	3717.9	7934.2
#3	101060.	5312.8	3726.9	7948.4

Zoom In Zoom Out

Sample Name: jc86331-8 Acquired: 4/18/2019 19:03:05 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.804**	**.0080**	**.0012**	**.0639**	**.1840**	**2.754**	**2.443**	**.1353**	**-.0027**
Stddev	.003	.0003	.0002	.0004	.0004	.005	.003	.0006	.0007
%RSD	.1518	3.363	17.49	.6997	.2326	.1780	.1209	.4343	24.90
#1	1.807	.0078	.0014	.0634	.1842	2.756	2.442	.1357	-.0034
#2	1.801	.0078	.0013	.0643	.1835	2.758	2.442	.1347	-.0021
#3	1.803	.0083	.0010	.0639	.1843	2.749	2.447	.1356	-.0026

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2371**	**.8118**	**.1667**	**-.0007**	**1.808**	**.0094**	**.0108**	**52.71**	**24.42**
Stddev	.0010	.0001	.0016	.0008	.003	.0023	.0014	.09	.08
%RSD	.4154	.0098	.9422	109.9	.1773	24.56	12.98	.1775	.3440
#1	.2373	.8117	.1684	.0002	1.809	.0081	.0093	52.80	24.51
#2	.2360	.8119	.1661	-.0010	1.804	.0082	.0121	52.72	24.36
#3	.2379	.8118	.1655	-.0014	1.810	.0121	.0110	52.61	24.37

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **296.3**	**6.987**	**5.607**	**1.328**	**.0335**	**.0272**	**2.043**	**.0850**	**1.220**
Stddev	.8	.045	.036	.003	.0004	.0004	.018	.0010	.001
%RSD	.2558	.6419	.6399	.2440	1.171	1.649	.8760	1.150	.1030
#1	297.1	6.954	5.644	1.330	.0331	.0271	2.063	.0856	1.222
#2	295.6	6.969	5.572	1.324	.0337	.0268	2.036	.0856	1.219
#3	296.2	7.038	5.604	1.329	.0338	.0277	2.030	.0839	1.220

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.025**	**.0156**	**.0623**	**5.505**	**.0108**	**.0768**	F **8.433**
Stddev	.001	.0016	.0003	.008	.0010	.0006	.014
%RSD	.0207	10.27	.4092	.1496	9.074	.8366	.1629
#1	3.024	.0149	.0625	5.510	.0119	.0766	8.444
#2	3.024	.0174	.0622	5.509	.0103	.0776	8.436
#3	3.025	.0144	.0620	5.495	.0101	.0764	8.417

Zoom In Zoom Out

Sample Name: jc86331-8 Acquired: 4/18/2019 19:03:05 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102170.**	**5416.2**	**3762.1**	**7919.7**
Stddev	275.	30.4	3.6	11.0
%RSD	.26935	.56071	.09463	.13862
#1	102240.	5381.5	3763.6	7919.8
#2	102410.	5437.8	3764.7	7930.7
#3	101870.	5429.4	3758.0	7908.7

Zoom In Zoom Out

Sample Name: jc86331-9 Acquired: 4/18/2019 19:08:20 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4977**	**.0048**	**.0042**	**.0709**	**.2684**	**.2997**	**3.147**	**.1201**	**-.0001**
Stddev	.0013	.0002	.0001	.0008	.0012	.0003	.006	.0011	.0001
%RSD	.2630	3.411	3.057	1.173	.4338	.0891	.2036	.8845	187.1
#1	.4987	.0046	.0042	.0704	.2697	.2999	3.154	.1196	.0001
#2	.4963	.0047	.0041	.0704	.2680	.2997	3.146	.1195	-.0002
#3	.4983	.0049	.0043	.0718	.2675	.2994	3.141	.1214	-.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1061**	**1.869**	**.0948**	**.0006**	**.5538**	**.0042**	**-.0003**	**52.85**	**17.47**
Stddev	.0006	.004	.0011	.0006	.0011	.0012	.0003	.19	.08
%RSD	.5536	.1956	1.155	92.49	.1977	28.16	93.91	.3624	.4582
#1	.1060	1.868	.0936	.0013	.5527	.0030	-.0000	52.89	17.51
#2	.1067	1.866	.0951	.0001	.5537	.0053	-.0007	52.63	17.38
#3	.1055	1.873	.0958	.0005	.5549	.0042	-.0003	53.01	17.53

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**128.1**	**19.25**	**7.223**	**.5803**	**.0240**	**.0035**	**1.942**	**.0829**	**.1116**
Stddev	.2	.03	.035	.0063	.0003	.0003	.018	.0002	.0004
%RSD	.1372	.1665	.4789	1.083	1.196	7.889	.9368	.2581	.3335
#1	128.3	19.27	7.241	.5868	.0238	.0032	1.963	.0830	.1117
#2	127.9	19.27	7.183	.5743	.0243	.0036	1.930	.0831	.1111
#3	128.1	19.21	7.245	.5798	.0238	.0037	1.933	.0827	.1119

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.337**	**.0080**	**.0450**	**11.72**	**.0023**	**.0926**	**3.660**
Stddev	.001	.0008	.0003	.06	.0006	.0023	.025
%RSD	.0524	10.35	.7719	.5000	27.01	2.438	.6909
#1	1.337	.0080	.0450	11.69	.0022	.0927	3.639
#2	1.338	.0089	.0453	11.69	.0018	.0903	3.652
#3	1.336	.0072	.0447	11.79	.0030	.0948	3.688

Zoom In Zoom Out

Sample Name: jc86331-9 Acquired: 4/18/2019 19:08:20 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101470.**	**5332.0**	**3723.1**	**7814.8**
Stddev	286.	16.9	8.7	24.0
%RSD	.28155	.31719	.23328	.30768
#1	101160.	5312.8	3729.7	7819.6
#2	101500.	5338.9	3726.3	7836.1
#3	101730.	5344.5	3713.2	7788.8

Zoom In Zoom Out

Sample Name: jc86331-10 Acquired: 4/18/2019 19:13:35 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6927**	**.0045**	**.0018**	**.0383**	**.1847**	**.7056**	**1.031**	**.1046**	**.0005**
Stddev	.0028	.0001	.0003	.0003	.0008	.0006	.001	.0002	.0005
%RSD	.3989	1.697	14.58	.7283	.4409	.0887	.1403	.2025	111.7
#1	.6918	.0044	.0021	.0381	.1838	.7056	1.032	.1047	.0003
#2	.6905	.0045	.0019	.0382	.1853	.7063	1.030	.1047	.0010
#3	.6958	.0046	.0015	.0387	.1851	.7050	1.030	.1043	.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1366**	**.8700**	**.0665**	**.0004**	**2.337**	**.0033**	**.0040**	**58.38**	**7.876**
Stddev	.0005	.0013	.0018	.0016	.002	.0014	.0022	.10	.023
%RSD	.3359	.1485	2.720	371.3	.0874	42.86	54.52	.1769	.2883
#1	.1361	.8685	.0648	.0016	2.336	.0040	.0053	58.26	7.856
#2	.1369	.8709	.0684	.0011	2.339	.0041	.0015	58.46	7.901
#3	.1368	.8706	.0663	-.0014	2.336	.0017	.0052	58.43	7.872

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**142.5**	**11.81**	**6.552**	**.4554**	**.0249**	**.0116**	**2.016**	**.0849**	**.1476**
Stddev	.2	.04	.036	.0129	.0006	.0003	.021	.0007	.0004
%RSD	.1576	.3722	.5448	2.838	2.523	2.249	1.057	.8808	.2674
#1	142.2	11.76	6.511	.4479	.0255	.0113	2.039	.0840	.1472
#2	142.6	11.83	6.575	.4481	.0249	.0118	2.012	.0855	.1476
#3	142.6	11.84	6.571	.4703	.0242	.0116	1.997	.0851	.1480

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.634**	**.0068**	**.0538**	**6.473**	**.0039**	**.0951**	**3.314**
Stddev	.001	.0006	.0004	.024	.0014	.0007	.017
%RSD	.0708	8.331	.7437	.3730	35.95	.7432	.5107
#1	1.635	.0072	.0536	6.487	.0023	.0957	3.326
#2	1.635	.0070	.0535	6.446	.0049	.0943	3.295
#3	1.633	.0061	.0542	6.488	.0046	.0954	3.321

Zoom In Zoom Out

Sample Name: jc86331-10 Acquired: 4/18/2019 19:13:35 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100590.**	**5258.8**	**3706.0**	**7875.1**
Stddev	107.	31.1	2.4	4.4
%RSD	.10653	.59061	.06367	.05650
#1	100630.	5279.4	3704.5	7880.0
#2	100470.	5223.0	3704.8	7873.7
#3	100670.	5273.8	3708.7	7871.4

Zoom In Zoom Out

Sample Name: jc86331-11 Acquired: 4/18/2019 19:18:51 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3632**	**.0030**	**.0018**	**.0496**	**.2942**	**.1303**	**1.892**	**.0901**	**-.0004**
Stddev	.0005	.0000	.0001	.0003	.0008	.0008	.004	.0002	.0005
%RSD	.1451	1.661	6.143	.5976	.2600	.6323	.1912	.1752	130.3
#1	.3626	.0030	.0017	.0496	.2933	.1309	1.888	.0900	-.0002
#2	.3633	.0030	.0019	.0500	.2947	.1293	1.895	.0900	-.0009
#3	.3636	.0029	.0018	.0494	.2945	.1306	1.892	.0903	.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0870**	**.9616**	**.0720**	**.0015**	**.3378**	**-.0001**	**.0001**	**44.14**	**17.02**
Stddev	.0009	.0015	.0006	.0014	.0011	.0020	.0012	.18	.06
%RSD	1.050	.1603	.8490	95.39	.3234	3840.	1328.	.4131	.3491
#1	.0871	.9622	.0715	.0029	.3390	-.0015	.0011	43.93	16.97
#2	.0861	.9628	.0727	.0000	.3374	-.0009	-.0012	44.23	17.01
#3	.0879	.9599	.0718	.0016	.3369	.0023	.0004	44.25	17.08

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**111.8**	**14.62**	**6.078**	**.3987**	**.0194**	**.0037**	**1.919**	**.0606**	**.0787**
Stddev	.2	.12	.018	.0109	.0005	.0002	.009	.0002	.0002
%RSD	.2124	.8353	.3032	2.730	2.650	6.325	.4730	.3811	.2181
#1	111.7	14.56	6.073	.3899	.0189	.0035	1.914	.0604	.0785
#2	111.5	14.54	6.063	.3953	.0193	.0036	1.913	.0605	.0788
#3	112.0	14.76	6.099	.4109	.0199	.0040	1.929	.0608	.0789

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.165**	**.0069**	**.0452**	**34.45**	**.0003**	**.0889**	**1.818**
Stddev	.002	.0006	.0002	.04	.0006	.0009	.004
%RSD	.1582	8.470	.4501	.1304	200.7	1.057	.1999
#1	1.163	.0067	.0449	34.40	.0008	.0878	1.815
#2	1.166	.0064	.0453	34.47	-.0004	.0892	1.818
#3	1.166	.0075	.0453	34.47	.0006	.0896	1.822

Zoom In Zoom Out

Sample Name: jc86331-11 Acquired: 4/18/2019 19:18:51 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100940.**	**5305.4**	**3694.5**	**7835.5**
Stddev	285.	15.6	4.2	5.7
%RSD	.28260	.29399	.11419	.07216
#1	101210.	5298.5	3699.1	7842.0
#2	100640.	5323.3	3693.2	7833.1
#3	100960.	5294.5	3691.0	7831.5

Zoom In Zoom Out

Sample Name: jc86331-12 Acquired: 4/18/2019 19:24:08 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6478**	**.0046**	**.0012**	**.0210**	**.1481**	**.4858**	**.7864**	**.0847**	**-.0004**
Stddev	.0013	.0001	.0001	.0004	.0005	.0008	.0021	.0004	.0002
%RSD	.2013	1.663	7.393	1.933	.3585	.1576	.2650	.4527	53.99
#1	.6463	.0046	.0013	.0207	.1485	.4865	.7887	.0847	-.0007
#2	.6485	.0046	.0012	.0209	.1484	.4850	.7862	.0843	-.0004
#3	.6486	.0047	.0011	.0215	.1475	.4860	.7845	.0851	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0966**	**.5982**	**.0834**	**-.0001**	**.8423**	**.0098**	**.0010**	**42.66**	**11.63**
Stddev	.0004	.0028	.0007	.0014	.0046	.0002	.0009	.05	.05
%RSD	.3957	.4744	.8939	1519.	.5479	2.074	92.95	.1270	.4154
#1	.0962	.5968	.0834	.0001	.8404	.0098	.0005	42.61	11.58
#2	.0968	.5964	.0827	-.0016	.8390	.0096	.0020	42.66	11.64
#3	.0969	.6015	.0842	.0012	.8476	.0100	.0004	42.72	11.68

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**81.64**	**5.278**	**3.984**	**.6627**	**.0197**	**.0115**	**2.957**	**.0350**	**.1973**
Stddev	.34	.024	.033	.0111	.0008	.0001	.018	.0005	.0007
%RSD	.4160	.4449	.8195	1.673	3.889	1.047	.6101	1.408	.3687
#1	81.29	5.257	3.959	.6735	.0202	.0114	2.977	.0352	.1968
#2	81.67	5.303	3.972	.6633	.0188	.0116	2.953	.0344	.1969
#3	81.97	5.273	4.021	.6513	.0200	.0116	2.942	.0354	.1981

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.260**	**.0054**	**.0385**	**3.786**	**.0004**	**.0733**	**2.287**
Stddev	.005	.0010	.0003	.011	.0022	.0009	.005
%RSD	.3820	17.91	.8609	.2864	600.5	1.291	.2386
#1	1.261	.0057	.0382	3.781	-.0021	.0742	2.285
#2	1.263	.0043	.0385	3.778	.0021	.0723	2.284
#3	1.254	.0062	.0389	3.798	.0011	.0733	2.294

Zoom In Zoom Out

Sample Name: jc86331-12 Acquired: 4/18/2019 19:24:08 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102340.**	**5272.5**	**3721.6**	**7873.6**
Stddev	397.	19.2	15.1	35.6
%RSD	.38827	.36414	.40575	.45159
#1	101900.	5287.6	3727.9	7885.3
#2	102430.	5278.8	3732.6	7901.9
#3	102680.	5250.9	3704.4	7833.7

Zoom In Zoom Out

Sample Name: jc86331-13 Acquired: 4/18/2019 19:29:25 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2168**	**.0024**	**.0025**	**.0478**	**.1284**	**.1234**	**1.893**	**.0877**	**-.0008**
Stddev	.0002	.0000	.0001	.0005	.0003	.0006	.001	.0007	.0006
%RSD	.0817	.5570	4.463	1.019	.2645	.4912	.0298	.8015	73.40
#1	.2166	.0024	.0026	.0472	.1284	.1235	1.893	.0870	-.0011
#2	.2169	.0024	.0024	.0481	.1287	.1228	1.892	.0878	-.0012
#3	.2170	.0023	.0025	.0480	.1280	.1239	1.893	.0883	-.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0626**	**1.112**	**.0414**	**-.0007**	**.2178**	**-.0001**	**.0004**	**38.09**	**8.221**
Stddev	.0004	.001	.0003	.0006	.0011	.0006	.0004	.08	.041
%RSD	.5722	.0672	.8116	81.02	.5097	474.0	109.6	.2192	.4948
#1	.0624	1.111	.0411	-.0004	.2168	.0002	.0006	38.00	8.203
#2	.0623	1.112	.0414	-.0014	.2175	-.0008	.0006	38.15	8.193
#3	.0630	1.112	.0418	-.0004	.2190	.0002	-.0001	38.13	8.268

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**90.21**	**14.09**	**4.911**	**.4234**	**.0166**	**.0013**	**1.641**	**.0429**	**.0471**
Stddev	.26	.13	.004	.0035	.0004	.0001	.029	.0004	.0001
%RSD	.2871	.9233	.0726	.8279	2.114	7.801	1.762	.9670	.2906
#1	90.10	14.01	4.907	.4193	.0170	.0013	1.668	.0428	.0470
#2	90.03	14.02	4.911	.4254	.0167	.0013	1.645	.0426	.0470
#3	90.51	14.24	4.914	.4253	.0163	.0012	1.611	.0434	.0472

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7236**	**.0042**	**.0334**	**8.507**	**-.0015**	**.0853**	**1.534**
Stddev	.0005	.0009	.0002	.022	.0010	.0015	.004
%RSD	.0697	21.89	.6129	.2627	68.03	1.741	.2308
#1	.7241	.0052	.0336	8.495	-.0012	.0855	1.530
#2	.7235	.0034	.0332	8.533	-.0007	.0837	1.537
#3	.7231	.0040	.0334	8.493	-.0026	.0867	1.534

Zoom In Zoom Out

Sample Name: jc86331-13 Acquired: 4/18/2019 19:29:25 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100710.**	**5245.4**	**3703.5**	**7891.0**
Stddev	168.	55.9	1.8	5.4
%RSD	.16652	1.0649	.04770	.06893
#1	100520.	5256.5	3705.4	7896.9
#2	100840.	5294.8	3703.1	7890.1
#3	100760.	5184.8	3702.0	7886.1

Zoom In Zoom Out

Sample Name: jc86386-2 Acquired: 4/18/2019 19:34:42 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0732**	**.0010**	**.0002**	**.0225**	**.0505**	**.0447**	**.9627**	**.0716**	**-.0010**
Stddev	.0003	.0000	.0001	.0001	.0002	.0002	.0007	.0001	.0001
%RSD	.4615	.8233	87.62	.5240	.4476	.4129	.0738	.1660	7.147
#1	.0729	.0010	.0001	.0225	.0503	.0448	.9622	.0715	-.0009
#2	.0735	.0010	.0001	.0224	.0505	.0445	.9625	.0717	-.0011
#3	.0731	.0010	.0003	.0226	.0508	.0448	.9636	.0715	-.0011

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0510**	**.3290**	**.0198**	**-.0002**	**.0743**	**-.0009**	**-.0002**	**17.07**	**30.35**
Stddev	.0003	.0011	.0008	.0010	.0004	.0004	.0004	.02	.06
%RSD	.5252	.3415	3.843	393.9	.4791	40.40	176.3	.1160	.1821
#1	.0512	.3299	.0204	-.0003	.0740	-.0011	-.0002	17.06	30.37
#2	.0511	.3294	.0189	.0008	.0742	-.0005	-.0006	17.09	30.39
#3	.0507	.3277	.0201	-.0011	.0747	-.0011	.0002	17.05	30.29

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**63.40**	**19.02**	**1.947**	**.9564**	**.0073**	**.0024**	**1.236**	**.0211**	**.0364**
Stddev	.17	.03	.016	.0116	.0002	.0002	.017	.0004	.0001
%RSD	.2707	.1818	.7981	1.209	2.793	7.689	1.338	1.722	.4006
#1	63.20	19.05	1.941	.9571	.0071	.0025	1.255	.0206	.0364
#2	63.53	18.99	1.936	.9446	.0074	.0022	1.231	.0213	.0365
#3	63.46	19.03	1.965	.9677	.0074	.0024	1.223	.0213	.0362

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8873**	**.0031**	**.0075**	**.3551**	**.0013**	**.0106**	**.9441**
Stddev	.0014	.0004	.0001	.0035	.0002	.0005	.0027
%RSD	.1608	11.91	1.088	.9891	16.48	4.585	.2909
#1	.8865	.0035	.0075	.3586	.0012	.0102	.9421
#2	.8864	.0030	.0076	.3553	.0015	.0112	.9473
#3	.8890	.0028	.0074	.3516	.0011	.0105	.9430

Zoom In Zoom Out

Sample Name: jc86386-2 Acquired: 4/18/2019 19:34:42 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99381.**	**5206.8**	**3635.6**	**7841.9**
Stddev	46.	5.5	5.1	3.9
%RSD	.04591	.10594	.14077	.04994
#1	99368.	5205.6	3633.0	7838.0
#2	99432.	5202.0	3632.4	7841.6
#3	99344.	5212.8	3641.5	7845.9

Zoom In Zoom Out

Sample Name: jc86464-1 Acquired: 4/18/2019 19:40:02 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **8.761**	**.0098**	**.0187**	**.0798**	**.1494**	**.6139**	**2.432**	**.1736**
Stddev	.008	.0001	.0003	.0003	.0008	.0011	.005	.0004
%RSD	.0888	.9747	1.674	.4025	.5050	.1740	.2094	.2274
#1	8.767	.0098	.0187	.0796	.1486	.6152	2.435	.1732
#2	8.752	.0097	.0189	.0802	.1501	.6135	2.434	.1734
#3	8.765	.0098	.0183	.0797	.1496	.6132	2.426	.1740

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **-.0041**	**.3176**	F **9.626**	**.1396**	**-.0010**	**4.152**	**-.0001**	**.0123**
Stddev	.0006	.0008	.008	.0008	.0011	.007	.0011	.0009
%RSD	15.35	.2666	.0857	.5919	115.1	.1708	1151.	7.117
#1	-.0036	.3170	9.617	.1405	-.0009	4.150	-.0013	.0127
#2	-.0048	.3186	9.633	.1393	-.0021	4.160	.0001	.0129
#3	-.0038	.3173	9.628	.1389	.0001	4.146	.0009	.0113

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**71.87**	**42.56**	F **255.4**	**14.99**	**8.010**	**1.691**	**.0370**	**.0205**
Stddev	.12	.08	.4	.04	.019	.011	.0007	.0002
%RSD	.1713	.1842	.1603	.2407	.2405	.6390	1.904	1.057
#1	72.01	42.60	255.8	15.03	7.990	1.700	.0362	.0207
#2	71.79	42.61	255.4	14.98	8.028	1.696	.0371	.0205
#3	71.82	42.47	255.0	14.96	8.013	1.679	.0376	.0203

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.166**	**2.023**	**.5946**	**1.761**	**.0250**	**.0293**	**6.622**	**.0104**
Stddev	.008	.004	.0009	.002	.0016	.0004	.010	.0014
%RSD	.3709	.1756	.1524	.1354	6.450	1.366	.1458	13.01
#1	2.170	2.021	.5955	1.764	.0259	.0297	6.611	.0119
#2	2.171	2.021	.5937	1.761	.0231	.0289	6.626	.0093
#3	2.157	2.027	.5946	1.759	.0260	.0291	6.629	.0099

Zoom In Zoom Out

Sample Name: jc86464-1 Acquired: 4/18/2019 19:40:02 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0998**	**4.738**
Stddev	.0006	.007
%RSD	.6192	.1547
#1	.1002	4.747
#2	.1001	4.733
#3	.0991	4.735

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100650.**	**5340.2**	**3685.5**	**7727.4**
Stddev	217.	10.9	3.7	5.2
%RSD	.21595	.20480	.10006	.06690
#1	100640.	5331.7	3683.3	7721.6
#2	100440.	5336.4	3689.8	7729.0
#3	100870.	5352.6	3683.6	7731.5

Zoom In Zoom Out

Sample Name: jc86464-2 Acquired: 4/18/2019 19:45:14 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.693**	**.0059**	**.0071**	**.1088**	**.1281**	**.5387**	**2.080**	**.1760**	**-.0008**
Stddev	.003	.0001	.0002	.0002	.0012	.0003	.003	.0005	.0001
%RSD	.1563	2.286	2.683	.1818	.9022	.0571	.1638	.2651	16.26
#1	1.691	.0058	.0073	.1089	.1277	.5384	2.078	.1755	-.0010
#2	1.693	.0060	.0070	.1086	.1294	.5390	2.077	.1760	-.0007
#3	1.696	.0059	.0070	.1090	.1273	.5387	2.083	.1764	-.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2234**	**3.942**	**.1048**	**.0000**	**3.672**	**.0008**	**.0068**	**77.61**	**52.75**
Stddev	.0012	.011	.0012	.0008	.006	.0010	.0009	.15	.10
%RSD	.5583	.2777	1.138	157300.	.1720	128.8	13.79	.1899	.1817
#1	.2246	3.930	.1036	-.0001	3.666	.0016	.0071	77.75	52.69
#2	.2221	3.947	.1048	.0008	3.673	.0012	.0057	77.46	52.70
#3	.2234	3.950	.1060	-.0007	3.678	-.0004	.0075	77.62	52.86

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**153.8**	**25.92**	**9.120**	**1.426**	**.0606**	**.0104**	**2.324**	**.2394**	**.3708**
Stddev	.3	.21	.027	.008	.0002	.0003	.036	.0007	.0003
%RSD	.1813	.8147	.2949	.5584	.3053	2.395	1.559	.2897	.0929
#1	153.5	25.72	9.089	1.419	.0605	.0107	2.342	.2395	.3710
#2	153.8	25.89	9.139	1.434	.0605	.0105	2.347	.2387	.3704
#3	154.0	26.14	9.132	1.424	.0608	.0102	2.282	.2400	.3710

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.042**	**.0114**	**.0446**	**4.335**	**.0032**	**.1591**	**4.568**
Stddev	.005	.0007	.0006	.026	.0017	.0028	.019
%RSD	.2449	5.705	1.343	.5929	54.30	1.742	.4102
#1	2.043	.0114	.0451	4.310	.0051	.1587	4.547
#2	2.036	.0121	.0439	4.361	.0029	.1565	4.584
#3	2.046	.0108	.0447	4.333	.0016	.1620	4.573

Zoom In Zoom Out

Sample Name: jc86464-2 Acquired: 4/18/2019 19:45:14 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101260.**	**5365.7**	**3685.4**	**7592.6**
Stddev	137.	12.1	6.5	4.5
%RSD	.13574	.22623	.17670	.05941
#1	101330.	5373.8	3692.8	7596.2
#2	101340.	5371.6	3681.0	7594.1
#3	101100.	5351.7	3682.3	7587.6

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 19:50:29 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.052**	**2.072**	**1.972**	**2.035**	**1.973**	**1.927**	**1.971**	**1.994**	**.2413**
Stddev	.122	.127	.004	.002	.007	.001	.006	.002	.0008
%RSD	5.944	6.120	.1991	.0756	.3510	.0539	.3176	.0838	.3508
#1	2.193	2.219	1.976	2.036	1.976	1.926	1.973	1.995	.2418
#2	1.983	2.002	1.971	2.034	1.965	1.927	1.964	1.992	.2403
#3	1.980	1.996	1.969	2.036	1.978	1.928	1.976	1.996	.2417
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.933**	**2.003**	**2.014**	**2.068**	**2.035**	**2.023**	**2.053**	**40.42**	**41.48**
Stddev	.006	.004	.004	.004	.006	.005	.001	2.44	2.60
%RSD	.2922	.2218	.2049	.1733	.2753	.2379	.0503	6.041	6.267
#1	1.936	2.005	2.017	2.068	2.037	2.027	2.053	43.24	44.49
#2	1.927	1.998	2.010	2.065	2.029	2.018	2.054	39.04	39.98
#3	1.937	2.006	2.016	2.072	2.040	2.024	2.052	38.98	39.98
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**41.60**	**40.41**	**40.83**	**41.42**	**2.079**	**2.020**	**5.204**	**2.031**	**2.107**
Stddev	2.57	2.58	2.45	2.46	.002	.003	.004	.003	.125
%RSD	6.187	6.380	6.008	5.941	.1143	.1311	.0694	.1367	5.939
#1	44.58	43.39	43.67	44.26	2.082	2.023	5.208	2.033	2.251
#2	40.17	39.02	39.37	39.97	2.078	2.018	5.202	2.027	2.035
#3	40.07	38.83	39.47	40.02	2.078	2.018	5.203	2.032	2.034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 19:50:29 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.903**	**1.973**	**1.926**	**2.068**	**2.098**	**2.025**	**2.022**
Stddev	.003	.002	.003	.005	.003	.117	.002
%RSD	.1625	.1081	.1612	.2628	.1218	5.767	.0985
#1	1.905	1.974	1.928	2.070	2.101	2.160	2.024
#2	1.900	1.974	1.923	2.062	2.097	1.957	2.020
#3	1.905	1.970	1.928	2.072	2.096	1.958	2.022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96395.**	**4929.1**	**3555.6**	**7387.8**
Stddev	459.	282.1	5.0	4.2
%RSD	.47664	5.7235	.14090	.05678
#1	96343.	4603.5	3549.8	7386.0
#2	96878.	5081.5	3558.9	7392.5
#3	95964.	5102.2	3558.1	7384.7

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 19:55:32 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0000**	**-.0000**	**.0001**	**.0001**	**-.0010**	**.0000**	**.0003**	**-.0016**
Stddev	.0000	.0002	.0001	.0000	.0001	.0003	.0000	.0005	.0001
%RSD	59.35	590.8	423.7	22.52	85.15	28.42	177.7	166.3	4.284
#1	-.0001	.0001	.0001	.0001	.0001	-.0007	.0000	-.0002	-.0017
#2	-.0000	.0001	-.0001	.0001	.0002	-.0011	.0001	.0008	-.0016
#3	-.0000	-.0001	-.0001	.0001	.0000	-.0012	-.0000	.0003	-.0016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0000**	**-.0002**	**.0006**	**-.0006**	**-.0018**	**.0007**	**-.0104**	**.0013**
Stddev	.0001	.0001	.0006	.0012	.0006	.0012	.0006	.0033	.0052
%RSD	19.85	1046.	258.0	212.6	87.72	64.81	78.17	31.61	392.2
#1	.0003	.0001	.0004	-.0008	-.0008	-.0024	.0013	-.0107	-.0018
#2	.0004	-.0001	-.0005	.0017	-.0011	-.0025	.0002	-.0070	-.0015
#3	.0004	-.0000	-.0006	.0009	-.0000	-.0005	.0008	-.0136	.0073
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0204**	**.0582**	**.0098**	**.0005**	**.0002**	**.0028**	**-.0006**	**.0001**
Stddev	.0078	.0032	.0041	.0154	.0005	.0002	.0013	.0006	.0001
%RSD	1809.	15.58	7.034	157.2	114.9	109.1	46.96	107.0	53.49
#1	.0033	.0233	.0614	.0209	.0010	.0001	.0043	-.0002	.0000
#2	.0064	.0208	.0596	-.0077	-.0001	.0003	.0019	-.0003	.0001
#3	-.0084	.0170	.0536	.0161	.0005	.0001	.0022	-.0012	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 19:55:32 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0001**	**.0001**	**.0045**	**-.0025**	**.0021**	**.0103**
Stddev	.0002	.0001	.0001	.0013	.0013	.0008	.0004
%RSD	63.99	120.6	130.2	28.38	49.85	36.50	4.041
#1	-.0005	-.0001	.0002	.0033	-.0021	.0026	.0105
#2	-.0001	-.0001	.0001	.0044	-.0040	.0025	.0105
#3	-.0003	.0000	-.0000	.0059	-.0016	.0012	.0098
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100900.**	**5094.9**	**3682.3**	**8273.3**
Stddev	39.	19.7	1.3	1.4
%RSD	.03912	.38646	.03477	.01697
#1	100890.	5076.2	3682.4	8272.0
#2	100950.	5093.0	3683.5	8274.8
#3	100870.	5115.5	3680.9	8273.0

Zoom In Zoom Out

Sample Name: mp14275-mb1 7 Acquired: 4/18/2019 20:01:04 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**-.0001**	**-.0001**	**.0001**	**.0011**	**.0002**	**.0004**	**.0006**	**-.0018**
Stddev	.0000	.0000	.0001	.0002	.0005	.0003	.0000	.0003	.0002
%RSD	2.250	25.77	77.33	156.0	45.49	129.1	11.17	59.96	11.22
#1	.0004	-.0001	-.0001	.0003	.0017	.0001	.0004	.0010	-.0018
#2	.0004	-.0001	-.0001	.0002	.0009	-.0000	.0004	.0003	-.0016
#3	.0004	-.0001	-.0003	-.0001	.0007	.0005	.0005	.0005	-.0020

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0046**	**-.0002**	**.0007**	**.0001**	**-.0010**	**.0002**	**.0184**	**.0491**
Stddev	.0001	.0002	.0004	.0005	.0006	.0016	.0007	.0154	.0032
%RSD	59.58	3.622	191.5	72.27	471.7	167.3	314.1	83.68	6.585
#1	.0001	.0047	-.0006	.0013	-.0000	.0007	.0010	.0095	.0473
#2	.0003	.0044	.0002	.0003	.0008	-.0025	-.0005	.0362	.0528
#3	.0003	.0046	-.0002	.0006	-.0004	-.0010	.0002	.0096	.0472

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0395**	**-.0345**	**.0259**	**.0500**	**.0004**	**.0002**	**.0269**	**.0207**	**.0006**
Stddev	.0087	.0173	.0109	.0089	.0009	.0001	.0005	.0000	.0001
%RSD	21.94	50.15	41.95	17.69	201.5	39.57	1.784	.2043	24.99
#1	.0460	-.0511	.0362	.0598	.0006	.0002	.0274	.0207	.0007
#2	.0428	-.0166	.0271	.0479	.0012	.0003	.0268	.0207	.0004
#3	.0296	-.0358	.0145	.0424	-.0005	.0002	.0264	.0206	.0007

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**-.0002**	**.0002**	**.0100**	**.0003**	**-.0008**	**.0330**
Stddev	.0003	.0003	.0001	.0016	.0008	.0008	.0012
%RSD	19.93	158.5	34.96	15.75	254.4	104.1	3.631
#1	.0012	-.0001	.0002	.0082	.0008	-.0002	.0316
#2	.0018	.0001	.0003	.0110	.0008	-.0017	.0336
#3	.0018	-.0005	.0002	.0109	-.0006	-.0005	.0337

Zoom In Zoom Out

Sample Name: mp14275-mb1 7 Acquired: 4/18/2019 20:01:04 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101430.**	**5192.7**	**3662.6**	**8271.9**
Stddev	81.	27.6	29.1	69.3
%RSD	.07969	.53244	.79365	.83770
#1	101440.	5194.9	3679.5	8313.3
#2	101510.	5219.2	3679.2	8310.5
#3	101350.	5164.1	3629.0	8191.9

Zoom In Zoom Out

Sample Name: mp14275-b1 Acquired: 4/18/2019 20:06:34 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.975**	**1.992**	**1.961**	**2.000**	**1.954**	**1.915**	**1.959**	**1.964**
Stddev	.004	.005	.002	.003	.005	.005	.005	.003
%RSD	.2197	.2474	.0916	.1565	.2368	.2489	.2664	.1395
#1	1.976	1.991	1.963	2.002	1.956	1.919	1.963	1.966
#2	1.970	1.988	1.959	2.000	1.958	1.918	1.960	1.965
#3	1.979	1.998	1.961	1.996	1.949	1.910	1.953	1.961

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2527**	**1.905**	**1.993**	**2.056**	**2.082**	**2.005**	**1.994**	**2.105**
Stddev	.0006	.004	.005	.003	.005	.004	.003	.001
%RSD	.2523	.2348	.2335	.1284	.2300	.2018	.1688	.0267
#1	.2533	1.908	1.997	2.058	2.084	2.010	1.998	2.106
#2	.2527	1.907	1.994	2.053	2.085	2.003	1.992	2.105
#3	.2520	1.900	1.988	2.058	2.076	2.003	1.992	2.105

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.31**	**24.97**	**25.06**	**24.20**	**24.39**	**24.72**	**1.994**	**2.052**
Stddev	.07	.05	.05	.14	.01	.04	.003	.002
%RSD	.3054	.1847	.1926	.5789	.0397	.1736	.1593	.0782
#1	24.40	25.02	25.04	24.07	24.38	24.77	1.990	2.054
#2	24.26	24.97	25.02	24.35	24.39	24.68	1.995	2.052
#3	24.28	24.93	25.11	24.19	24.40	24.73	1.996	2.051

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0854**	**2.117**	**2.015**	**1.954**	**1.261**	**1.979**	F **-.0552**	**.0031**
Stddev	.0010	.003	.007	.003	.011	.005	.0021	.0022
%RSD	1.173	.1335	.3283	.1619	.8434	.2531	3.791	71.50
#1	.0865	2.120	2.013	1.956	1.249	1.984	-.0576	.0056
#2	.0852	2.117	2.010	1.955	1.264	1.978	-.0543	.0021
#3	.0845	2.114	2.023	1.950	1.269	1.974	-.0536	.0016

Zoom In Zoom Out

Sample Name: mp14275-b1 Acquired: 4/18/2019 20:06:34 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0017**	**2.009**
Stddev	.0004	.000
%RSD	21.79	.0189
#1	.0015	2.009
#2	.0015	2.009
#3	.0021	2.009

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**97951.**	**5113.4**	**3592.5**	**7620.7**
Stddev	287.	33.1	2.1	4.9
%RSD	.29297	.64640	.05965	.06432
#1	97871.	5087.8	3591.2	7616.3
#2	97712.	5101.8	3595.0	7619.8
#3	98269.	5150.7	3591.3	7626.0

Zoom In Zoom Out

Sample Name: mp14275-s1 Acquired: 4/18/2019 20:11:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.511**	**1.883**	**1.909**	**1.994**	**2.142**	**2.488**	**3.574**	**2.052**	**.2471**
Stddev	.005	.003	.023	.026	.001	.003	.004	.027	.0003
%RSD	.2066	.1400	1.197	1.308	.0537	.1019	.0983	1.298	.1114
#1	2.510	1.883	1.897	1.979	2.143	2.486	3.578	2.037	.2469
#2	2.506	1.881	1.935	2.025	2.143	2.491	3.575	2.082	.2471
#3	2.517	1.886	1.894	1.980	2.141	2.486	3.571	2.035	.2474

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.958**	**3.691**	**2.015**	**1.991**	**2.862**	**1.913**	**1.469**	**81.17**	**50.13**
Stddev	.003	.044	.025	.027	.035	.022	.017	.18	.13
%RSD	.1610	1.203	1.238	1.365	1.234	1.144	1.180	.2170	.2548
#1	1.960	3.671	2.004	1.975	2.840	1.901	1.459	81.37	50.28
#2	1.960	3.742	2.044	2.023	2.903	1.938	1.489	81.06	50.08
#3	1.955	3.661	1.998	1.977	2.844	1.899	1.459	81.07	50.04

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**133.0**	**45.98**	**33.79**	**44.48**	**1.932**	**1.919**	**2.482**	**2.142**	**2.093**
Stddev	.2	.23	.04	.01	.023	.023	.036	.030	.003
%RSD	.1270	.5045	.1274	.0325	1.171	1.218	1.445	1.390	.1345
#1	133.0	46.19	33.79	44.47	1.922	1.906	2.463	2.123	2.092
#2	132.9	46.01	33.75	44.48	1.957	1.946	2.523	2.176	2.091
#3	133.2	45.73	33.83	44.50	1.915	1.904	2.458	2.126	2.097

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.250**	**.9041**	**1.922**	**33.19**	**.0058**	**.0624**	F **10.73**
Stddev	.002	.0110	.002	.45	.0015	.0020	.13
%RSD	.0438	1.222	.1031	1.347	25.01	3.199	1.238
#1	4.251	.8963	1.924	32.92	.0074	.0647	10.65
#2	4.251	.9168	1.923	33.71	.0046	.0615	10.89
#3	4.248	.8992	1.920	32.94	.0055	.0611	10.67

Zoom In Zoom Out

Sample Name: mp14275-s1 Acquired: 4/18/2019 20:11:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99612.**	**5321.5**	**3620.7**	**7363.4**
Stddev	42.	32.9	37.1	78.0
%RSD	.04237	.61878	1.0260	1.0597
#1	99647.	5285.1	3639.6	7408.0
#2	99623.	5330.2	3577.9	7273.3
#3	99565.	5349.1	3644.6	7408.9

Zoom In Zoom Out

Sample Name: mp14275-s2 Acquired: 4/18/2019 20:16:40 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.567**	**1.870**	**1.888**	**1.983**	**2.173**	**2.452**	**3.677**	**2.036**	**.2502**
Stddev	.004	.004	.006	.003	.002	.003	.005	.006	.0003
%RSD	.1695	.2329	.2940	.1425	.0748	.1012	.1387	.2866	.1242
#1	2.565	1.868	1.883	1.980	2.171	2.454	3.682	2.032	.2499
#2	2.572	1.875	1.887	1.983	2.173	2.450	3.675	2.032	.2505
#3	2.565	1.866	1.894	1.986	2.174	2.450	3.672	2.043	.2502

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.963**	**3.803**	**1.997**	**1.969**	**3.015**	**1.884**	**1.452**	**84.07**	**51.22**
Stddev	.004	.008	.008	.008	.005	.004	.004	.14	.08
%RSD	.1933	.2074	.4026	.4181	.1667	.1953	.2593	.1660	.1517
#1	1.968	3.795	1.988	1.964	3.010	1.884	1.453	84.04	51.23
#2	1.962	3.803	1.998	1.965	3.014	1.880	1.447	84.22	51.30
#3	1.961	3.811	2.004	1.979	3.020	1.888	1.454	83.95	51.14

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**139.1**	**46.99**	**33.97**	**45.49**	**1.916**	**1.907**	**2.767**	**2.116**	**2.093**
Stddev	.6	.40	.17	.14	.006	.005	.014	.008	.006
%RSD	.4260	.8566	.4884	.3031	.3166	.2448	.5142	.3722	.2784
#1	138.8	46.64	33.89	45.44	1.914	1.904	2.782	2.108	2.090
#2	139.8	47.43	34.16	45.64	1.911	1.906	2.765	2.116	2.100
#3	138.7	46.91	33.86	45.38	1.923	1.913	2.754	2.124	2.090

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.432**	**.9637**	**1.932**	**35.36**	**.0066**	**.0658**	F **11.36**
Stddev	.003	.0024	.001	.16	.0010	.0008	.04
%RSD	.0673	.2479	.0241	.4659	14.85	1.260	.3896
#1	4.435	.9638	1.933	35.22	.0055	.0649	11.32
#2	4.429	.9613	1.932	35.31	.0068	.0661	11.35
#3	4.431	.9661	1.932	35.54	.0075	.0665	11.41

Zoom In Zoom Out

Sample Name: mp14275-s2 Acquired: 4/18/2019 20:16:40 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99889.**	**5328.5**	**3644.9**	**7391.4**
Stddev	258.	33.1	9.4	15.5
%RSD	.25858	.62093	.25887	.21034
#1	99622.	5351.1	3652.5	7404.1
#2	100140.	5290.5	3647.8	7396.0
#3	99908.	5343.9	3634.3	7374.1

Zoom In Zoom Out

Sample Name: jc86246-10 Acquired: 4/18/2019 20:21:41 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5876**	**.0028**	**.0185**	**.0396**	**.3202**	**.5350**	**1.754**	**.1349**	**.0109**
Stddev	.0167	.0002	.0003	.0003	.0007	.0002	.005	.0005	.0009
%RSD	2.838	6.035	1.354	.6970	.2082	.0368	.2709	.3879	7.911
#1	.5935	.0028	.0183	.0395	.3207	.5352	1.759	.1343	.0114
#2	.5687	.0026	.0187	.0394	.3194	.5351	1.749	.1353	.0099
#3	.6005	.0029	.0183	.0399	.3204	.5348	1.754	.1349	.0114

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1439**	**1.931**	**.0315**	**-.0014**	**1.115**	**.0030**	**.0046**	**42.52**	**23.51**
Stddev	.0005	.003	.0007	.0004	.002	.0008	.0006	1.21	.61
%RSD	.3359	.1535	2.269	33.03	.2187	26.59	12.12	2.855	2.600
#1	.1444	1.932	.0322	-.0009	1.113	.0031	.0049	43.01	23.78
#2	.1435	1.928	.0314	-.0014	1.114	.0038	.0039	41.14	22.81
#3	.1439	1.933	.0308	-.0018	1.117	.0022	.0048	43.42	23.94

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**107.9**	**20.65**	**6.236**	**20.47**	**.0753**	**.0098**	**1.747**	**.2641**	**.1695**
Stddev	3.0	.57	.154	.54	.0012	.0001	.005	.0013	.0047
%RSD	2.783	2.770	2.466	2.624	1.538	1.285	.2754	.4834	2.755
#1	109.2	20.95	6.333	20.70	.0742	.0099	1.753	.2626	.1708
#2	104.4	19.99	6.059	19.85	.0765	.0096	1.745	.2647	.1642
#3	110.0	21.02	6.316	20.85	.0750	.0098	1.744	.2649	.1733

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.166**	**.0137**	**.0457**	**34.83**	**.0023**	**.0577**	F **9.178**
Stddev	.006	.0004	.0005	.05	.0020	.0027	.013
%RSD	.2563	2.985	.9914	.1381	88.02	4.624	.1399
#1	2.170	.0138	.0457	34.78	.0010	.0585	9.169
#2	2.160	.0133	.0453	34.83	.0046	.0547	9.172
#3	2.169	.0141	.0462	34.87	.0013	.0599	9.193

Zoom In Zoom Out

Sample Name: jc86246-10 Acquired: 4/18/2019 20:21:41 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101330.**	**5431.4**	**3717.3**	**7746.6**
Stddev	294.	115.5	4.1	10.9
%RSD	.29026	2.1273	.11050	.14099
#1	101010.	5365.6	3712.8	7735.7
#2	101580.	5564.8	3720.8	7757.5
#3	101390.	5363.7	3718.3	7746.6

Zoom In Zoom Out

Sample Name: mp14275-sd1 Acquired: 4/18/2019 20:26:56 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5992**	**.0028**	**.0194**	**.0434**	**.3456**	**.5625**	**1.893**	**.1474**	**.0022**
Stddev	.0149	.0002	.0012	.0018	.0112	.0193	.064	.0038	.0021
%RSD	2.487	6.562	6.084	4.258	3.240	3.431	3.386	2.613	97.20
#1	.5833	.0029	.0181	.0413	.3395	.5527	1.863	.1443	.0042
#2	.6013	.0030	.0203	.0444	.3387	.5502	1.850	.1517	.0022
#3	.6129	.0026	.0198	.0446	.3585	.5848	1.967	.1461	.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1561**	**2.216**	**.0370**	**-.0071**	**1.228**	**-.0028**	**.0089**	**43.32**	**24.33**
Stddev	.0055	.067	.0057	.0051	.033	.0015	.0030	1.03	.56
%RSD	3.494	3.004	15.32	71.56	2.655	55.27	33.11	2.384	2.299
#1	.1531	2.169	.0406	-.0050	1.204	-.0030	.0073	42.24	23.77
#2	.1528	2.292	.0400	-.0130	1.266	-.0042	.0072	43.41	24.33
#3	.1624	2.186	.0305	-.0035	1.215	-.0011	.0123	44.30	24.89

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**114.3**	**21.27**	**6.168**	**20.84**	**.0903**	**.0118**	**1.942**	**.3062**	**.1719**
Stddev	3.1	.50	.171	.50	.0050	.0006	.051	.0063	.0040
%RSD	2.725	2.371	2.768	2.384	5.493	5.053	2.637	2.043	2.306
#1	110.9	20.96	5.996	20.30	.0857	.0124	1.904	.3043	.1678
#2	114.7	20.99	6.170	20.92	.0955	.0119	2.001	.3132	.1724
#3	117.1	21.85	6.337	21.29	.0897	.0112	1.923	.3011	.1757

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.306**	**.0351**	**.0482**	**38.66**	**-.0007**	**.0639**	**10.41**
Stddev	.072	.0030	.0018	1.15	.0029	.0022	.30
%RSD	3.127	8.653	3.655	2.972	413.5	3.477	2.898
#1	2.275	.0363	.0473	37.72	-.0001	.0659	10.18
#2	2.255	.0373	.0471	39.94	.0018	.0642	10.75
#3	2.389	.0316	.0502	38.32	-.0038	.0615	10.31

Zoom In Zoom Out

Sample Name: mp14275-sd1 Acquired: 4/18/2019 20:26:56 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101870.**	**5179.8**	**3658.6**	**7961.2**
Stddev	2050.	26.3	86.5	175.6
%RSD	2.0120	.50858	2.3635	2.2055
#1	101670.	5151.8	3709.6	8065.7
#2	104010.	5204.0	3558.8	7758.5
#3	99926.	5183.7	3707.5	8059.4

Zoom In Zoom Out

Sample Name: jc86296-3 Acquired: 4/18/2019 20:32:12 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6338**	**.0029**	**.0163**	**.0526**	**.1028**	**1.123**	**1.885**	**.1794**	**-.0016**
Stddev	.0025	.0000	.0001	.0004	.0009	.002	.005	.0003	.0001
%RSD	.3913	.9976	.8227	.6854	.8628	.2049	.2650	.1839	5.412
#1	.6321	.0029	.0165	.0529	.1032	1.125	1.888	.1797	-.0017
#2	.6367	.0029	.0163	.0522	.1035	1.124	1.889	.1793	-.0016
#3	.6327	.0029	.0162	.0526	.1018	1.121	1.880	.1791	-.0015

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1032**	**1.313**	**.0524**	**-.0009**	**1.187**	**-.0012**	**-.0002**	**60.57**	**46.21**
Stddev	.0003	.001	.0015	.0011	.001	.0011	.0005	.21	.09
%RSD	.2575	.0581	2.868	129.9	.0414	91.66	201.2	.3543	.2021
#1	.1035	1.313	.0527	-.0021	1.188	-.0024	.0003	60.56	46.17
#2	.1030	1.314	.0537	-.0006	1.187	-.0009	-.0007	60.79	46.31
#3	.1033	1.313	.0507	.0001	1.187	-.0003	-.0003	60.36	46.14

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**139.2**	**38.94**	**6.298**	**9.697**	**.0245**	**.0108**	**1.406**	**.0323**	**.0980**
Stddev	.6	.21	.018	.015	.0002	.0002	.003	.0002	.0003
%RSD	.4211	.5311	.2843	.1498	.8748	1.886	.2267	.4826	.2980
#1	138.8	38.71	6.278	9.681	.0246	.0109	1.410	.0321	.0977
#2	139.9	39.11	6.305	9.710	.0246	.0109	1.405	.0324	.0981
#3	139.0	39.00	6.311	9.700	.0242	.0106	1.404	.0324	.0983

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4548**	**.0075**	**.0465**	**1.103**	**.0005**	**.1345**	**3.885**
Stddev	.0014	.0006	.0003	.003	.0014	.0009	.015
%RSD	.3164	7.725	.6843	.3051	270.1	.6381	.3833
#1	.4561	.0076	.0461	1.101	.0014	.1351	3.868
#2	.4551	.0068	.0467	1.107	-.0011	.1348	3.895
#3	.4533	.0080	.0466	1.102	.0012	.1335	3.892

Zoom In Zoom Out

Sample Name: jc86296-3 Acquired: 4/18/2019 20:32:12 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102140.**	**5345.4**	**3726.6**	**7626.2**
Stddev	318.	19.4	4.0	4.3
%RSD	.31143	.36302	.10670	.05627
#1	101920.	5360.6	3731.2	7630.8
#2	102000.	5323.5	3724.6	7625.4
#3	102510.	5351.9	3724.1	7622.3

Zoom In Zoom Out

Sample Name: jc86296-4 Acquired: 4/18/2019 20:37:26 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5718**	**.0030**	**.0086**	**.0505**	**.0852**	**.2599**	**2.742**	**.1569**	**-.0008**
Stddev	.0006	.0001	.0003	.0004	.0003	.0004	.000	.0005	.0002
%RSD	.1000	2.304	3.862	.7694	.3501	.1359	.0072	.3349	22.62
#1	.5724	.0029	.0082	.0503	.0850	.2595	2.742	.1569	-.0007
#2	.5713	.0031	.0087	.0503	.0855	.2599	2.742	.1574	-.0007
#3	.5718	.0031	.0088	.0510	.0850	.2602	2.742	.1564	-.0010

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0920**	**.7549**	**.0525**	**-.0013**	**.5905**	**-.0015**	**-.0017**	**56.13**	**84.69**
Stddev	.0004	.0016	.0013	.0009	.0011	.0028	.0008	.02	.05
%RSD	.4174	.2069	2.465	70.00	.1912	186.9	48.14	.0358	.0569
#1	.0922	.7567	.0518	-.0024	.5917	-.0007	-.0011	56.11	84.67
#2	.0915	.7540	.0540	-.0007	.5904	-.0047	-.0026	56.15	84.66
#3	.0921	.7540	.0517	-.0009	.5895	.0008	-.0013	56.12	84.75

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**133.3**	**32.14**	**5.866**	**11.01**	**.0221**	**.0070**	**1.174**	**.0279**	**.1404**
Stddev	.2	.06	.024	.02	.0003	.0000	.005	.0002	.0003
%RSD	.1746	.1812	.4070	.1416	1.397	.5323	.4034	.6729	.2133
#1	133.4	32.16	5.850	11.00	.0217	.0069	1.180	.0279	.1405
#2	133.0	32.07	5.854	11.03	.0222	.0070	1.172	.0277	.1401
#3	133.4	32.18	5.893	11.00	.0223	.0070	1.171	.0281	.1407

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3944**	**.0063**	**.0522**	**2.517**	**-.0022**	**.1327**	**3.503**
Stddev	.0007	.0009	.0001	.008	.0014	.0004	.007
%RSD	.1810	14.83	.1373	.3344	62.93	.3126	.2082
#1	.3952	.0073	.0521	2.524	-.0006	.1325	3.509
#2	.3945	.0055	.0522	2.508	-.0027	.1332	3.505
#3	.3937	.0061	.0523	2.519	-.0033	.1325	3.494

Zoom In Zoom Out

Sample Name: jc86296-4 Acquired: 4/18/2019 20:37:26 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103330.**	**5432.6**	**3766.8**	**7518.1**
Stddev	133.	15.9	6.2	16.1
%RSD	.12865	.29320	.16420	.21461
#1	103220.	5421.4	3760.7	7505.8
#2	103480.	5425.6	3766.5	7512.1
#3	103300.	5450.8	3773.1	7536.3

Zoom In Zoom Out

Sample Name: jc86296-6 Acquired: 4/18/2019 20:42:39 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9678**	**.0038**	**.0508**	**.0620**	**.3471**	**1.026**	**3.246**	**.6183**	**-.0017**
Stddev	.0012	.0001	.0001	.0003	.0005	.002	.005	.0037	.0004
%RSD	.1253	1.537	.2335	.4379	.1353	.2348	.1616	.5961	23.60
#1	.9684	.0038	.0509	.0620	.3475	1.029	3.251	.6197	-.0012
#2	.9664	.0037	.0507	.0618	.3466	1.025	3.241	.6141	-.0018
#3	.9685	.0038	.0509	.0623	.3472	1.025	3.246	.6211	-.0020

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1151**	**3.146**	**.0622**	**-.0008**	**3.702**	**.0011**	**.0039**	**61.48**	**46.18**
Stddev	.0004	.010	.0009	.0013	.005	.0010	.0014	.17	.11
%RSD	.3372	.3208	1.384	167.9	.1282	84.45	35.89	.2716	.2394
#1	.1149	3.157	.0630	-.0022	3.708	.0004	.0052	61.67	46.28
#2	.1155	3.145	.0613	.0003	3.699	.0022	.0025	61.35	46.06
#3	.1148	3.137	.0624	-.0004	3.700	.0008	.0040	61.44	46.18

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**163.2**	**25.40**	**6.778**	**13.22**	**.0443**	**.0287**	**2.110**	**.1112**	**.1314**
Stddev	.5	.12	.036	.02	.0006	.0003	.015	.0005	.0000
%RSD	.3197	.4849	.5376	.1777	1.333	.8896	.6857	.4922	.0189
#1	163.6	25.48	6.738	13.24	.0449	.0287	2.125	.1110	.1314
#2	162.6	25.26	6.788	13.19	.0438	.0285	2.108	.1108	.1314
#3	163.4	25.47	6.808	13.23	.0443	.0290	2.096	.1119	.1314

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7544**	**.0202**	**.0500**	**7.454**	**.0028**	**.1192**	**3.529**
Stddev	.0010	.0003	.0001	.026	.0006	.0019	.009
%RSD	.1363	1.635	.2788	.3480	19.76	1.584	.2429
#1	.7545	.0206	.0501	7.434	.0035	.1173	3.524
#2	.7554	.0200	.0500	7.445	.0026	.1211	3.523
#3	.7533	.0200	.0499	7.483	.0024	.1192	3.538

Zoom In Zoom Out

Sample Name: jc86296-6 Acquired: 4/18/2019 20:42:39 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101610.**	**5384.7**	**3719.0**	**7656.6**
Stddev	39.	32.1	1.4	5.2
%RSD	.03872	.59539	.03825	.06805
#1	101650.	5348.0	3717.7	7651.5
#2	101570.	5407.2	3718.8	7661.9
#3	101610.	5399.0	3720.5	7656.5

Zoom In Zoom Out

Sample Name: jc86296-7 Acquired: 4/18/2019 20:47:53 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8567**	**.0041**	**.0028**	**.0533**	**.0940**	**.1779**	**4.869**	**.1286**	**-.0011**
Stddev	.0014	.0001	.0002	.0003	.0005	.0008	.009	.0004	.0004
%RSD	.1590	2.237	6.367	.5270	.5266	.4501	.1900	.3393	36.82
#1	.8582	.0041	.0028	.0536	.0934	.1784	4.860	.1283	-.0009
#2	.8556	.0042	.0030	.0531	.0943	.1770	4.879	.1291	-.0015
#3	.8562	.0041	.0027	.0530	.0941	.1783	4.869	.1284	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1462**	**1.652**	**.0847**	**-.0005**	**.3156**	**.0014**	**-.0013**	**86.10**	**30.90**
Stddev	.0006	.006	.0028	.0014	.0012	.0006	.0012	.14	.13
%RSD	.4409	.3761	3.310	291.3	.3879	41.44	88.77	.1664	.4173
#1	.1456	1.657	.0871	-.0005	.3143	.0017	.0000	86.16	30.85
#2	.1469	1.645	.0855	-.0018	.3158	.0007	-.0018	85.94	30.79
#3	.1462	1.653	.0816	.0009	.3168	.0017	-.0022	86.20	31.04

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**169.0**	**23.04**	**6.310**	**17.22**	**.0369**	**.0164**	**1.975**	**.0257**	**.0927**
Stddev	.3	.04	.030	.02	.0013	.0004	.009	.0002	.0001
%RSD	.1637	.1796	.4694	.1036	3.429	2.174	.4730	.7650	.1064
#1	169.3	23.07	6.336	17.24	.0358	.0160	1.982	.0258	.0927
#2	168.7	23.04	6.278	17.21	.0365	.0165	1.977	.0255	.0925
#3	169.0	22.99	6.314	17.21	.0383	.0168	1.964	.0257	.0927

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6278**	**.0082**	**.0476**	**5.182**	**.0009**	**.1486**	**3.095**
Stddev	.0015	.0001	.0002	.011	.0005	.0016	.007
%RSD	.2468	1.167	.3708	.2186	53.72	1.108	.2157
#1	.6261	.0082	.0475	5.169	.0014	.1472	3.090
#2	.6281	.0083	.0478	5.186	.0006	.1482	3.092
#3	.6291	.0081	.0474	5.190	.0006	.1504	3.103

Zoom In Zoom Out

Sample Name: jc86296-7 Acquired: 4/18/2019 20:47:53 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101790.**	**5427.9**	**3749.2**	**7655.5**
Stddev	245.	13.2	9.8	16.7
%RSD	.24104	.24277	.26205	.21842
#1	101970.	5417.7	3738.7	7639.5
#2	101510.	5442.8	3758.2	7672.8
#3	101890.	5423.3	3750.8	7654.2

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 20:53:08 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.984**	**1.992**	**1.980**	**2.023**	**1.962**	**1.929**	**1.967**	**1.992**	**.2408**
Stddev	.006	.005	.001	.001	.006	.002	.003	.001	.0003
%RSD	.2822	.2431	.0277	.0491	.3149	.1008	.1482	.0640	.1250
#1	1.980	1.987	1.980	2.024	1.955	1.927	1.963	1.994	.2408
#2	1.991	1.995	1.980	2.023	1.965	1.930	1.968	1.992	.2412
#3	1.981	1.996	1.979	2.022	1.966	1.930	1.969	1.992	.2406
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.932**	**1.993**	**2.001**	**2.060**	**2.023**	**2.014**	**2.042**	**39.09**	**39.96**
Stddev	.004	.003	.001	.004	.002	.001	.002	.10	.17
%RSD	.1994	.1310	.0348	.1779	.1098	.0345	.0794	.2647	.4232
#1	1.928	1.996	2.001	2.057	2.021	2.014	2.042	38.97	39.77
#2	1.935	1.992	2.002	2.059	2.024	2.013	2.040	39.17	40.07
#3	1.934	1.991	2.001	2.064	2.025	2.014	2.044	39.12	40.06
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.97**	**38.81**	**39.39**	**40.00**	**2.077**	**2.015**	**5.190**	**2.021**	**2.025**
Stddev	.10	.22	.12	.12	.002	.002	.002	.001	.004
%RSD	.2477	.5722	.3065	.2972	.0966	.0859	.0359	.0407	.2196
#1	39.87	38.59	39.25	39.86	2.077	2.017	5.192	2.021	2.020
#2	39.98	38.81	39.44	40.09	2.079	2.013	5.189	2.020	2.029
#3	40.07	39.03	39.48	40.03	2.075	2.015	5.190	2.021	2.026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 20:53:08 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.907**	**1.972**	**1.926**	**2.042**	**2.087**	**1.953**	**1.995**
Stddev	.003	.002	.002	.005	.001	.005	.004
%RSD	.1637	.1184	.1029	.2254	.0544	.2648	.1887
#1	1.903	1.971	1.924	2.039	2.086	1.948	1.992
#2	1.909	1.970	1.928	2.040	2.088	1.958	1.995
#3	1.908	1.975	1.926	2.047	2.087	1.952	1.999
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96835.**	**5058.5**	**3563.4**	**7419.8**
Stddev	131.	43.0	1.1	1.6
%RSD	.13537	.85083	.03225	.02162
#1	96941.	5100.1	3562.5	7418.9
#2	96689.	5061.3	3562.9	7418.9
#3	96877.	5014.2	3564.7	7421.7

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 20:58:11 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0000**	**-.0001**	**.0000**	**-.0002**	**-.0005**	**.0000**	**.0001**	**-.0016**
Stddev	.0004	.0001	.0000	.0002	.0001	.0003	.0000	.0000	.0003
%RSD	164.5	414.4	55.66	3715.	69.85	59.12	411.3	30.71	17.79
#1	-.0006	.0000	-.0001	-.0001	-.0002	-.0005	.0000	.0001	-.0013
#2	.0002	-.0001	-.0000	.0002	-.0000	-.0008	.0000	.0001	-.0017
#3	-.0004	.0001	-.0001	-.0000	-.0002	-.0002	-.0000	.0001	-.0019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0001**	**-.0002**	**-.0010**	**-.0004**	**-.0007**	**.0011**	**-.0072**	**-.0023**
Stddev	.0002	.0000	.0014	.0004	.0009	.0011	.0010	.0066	.0016
%RSD	111.2	80.86	754.9	43.01	243.2	151.2	93.77	91.53	68.83
#1	.0001	.0000	.0014	-.0011	.0004	.0002	.0008	-.0030	-.0008
#2	.0004	.0000	-.0008	-.0005	-.0001	-.0019	.0002	-.0147	-.0040
#3	.0001	.0001	-.0011	-.0012	-.0014	-.0005	.0022	-.0038	-.0023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0031**	**-.0262**	**.0407**	**.0255**	**.0010**	**.0005**	**.0010**	**-.0003**	**.0001**
Stddev	.0061	.0260	.0261	.0055	.0004	.0002	.0004	.0002	.0001
%RSD	199.3	99.22	64.14	21.62	43.30	34.85	43.98	56.57	207.7
#1	.0057	-.0518	.0553	.0279	.0013	.0004	.0014	-.0005	-.0001
#2	-.0039	.0002	.0562	.0192	.0005	.0007	.0005	-.0002	.0001
#3	.0074	-.0271	.0105	.0293	.0013	.0003	.0011	-.0003	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 20:58:11 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0024**	**.0002**	**.0035**	**-.0002**	**.0021**	**.0100**
Stddev	.0002	.0006	.0001	.0010	.0009	.0014	.0002
%RSD	80.48	26.51	40.62	28.09	438.3	66.36	1.645
#1	-.0003	.0031	.0001	.0036	.0005	.0030	.0101
#2	-.0003	.0023	.0002	.0045	-.0012	.0005	.0098
#3	-.0000	.0018	.0002	.0025	.0002	.0028	.0100
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101370.**	**5120.9**	**3684.7**	**8292.5**
Stddev	121.	25.7	2.2	10.8
%RSD	.11965	.50234	.05941	.12997
#1	101500.	5149.1	3682.7	8283.7
#2	101260.	5098.7	3687.0	8304.5
#3	101370.	5115.0	3684.4	8289.4

Zoom In Zoom Out

Sample Name: jc86296-8 Acquired: 4/18/2019 21:03:43 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.250**	**.0040**	**-.0003**	**.0546**	**.0925**	**.2288**	**2.111**	**.1369**
Stddev	.002	.0001	.0002	.0001	.0013	.0019	.026	.0009
%RSD	.1738	3.004	77.67	.1350	1.395	.8423	1.252	.6754
#1	1.249	.0040	-.0005	.0547	.0922	.2275	2.092	.1366
#2	1.253	.0041	-.0002	.0547	.0939	.2310	2.141	.1362
#3	1.249	.0038	-.0001	.0546	.0914	.2279	2.099	.1380

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0026**	**.1579**	**.6148**	**.0572**	F **-.0020**	**.0714**	**-.0007**	**-.0022**
Stddev	.0010	.0017	.0005	.0008	.0015	.0003	.0014	.0005
%RSD	36.35	1.105	.0764	1.437	74.20	.4152	199.0	21.62
#1	-.0018	.1570	.6152	.0563	-.0003	.0718	.0006	-.0028
#2	-.0037	.1599	.6149	.0580	-.0032	.0713	-.0022	-.0018
#3	-.0024	.1568	.6143	.0572	-.0025	.0712	-.0005	-.0022

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**58.96**	**10.70**	F **210.5**	**19.32**	**7.634**	**23.88**	**.0245**	**.0094**
Stddev	.12	.02	.5	.04	.030	.06	.0007	.0002
%RSD	.2099	.1639	.2469	.2249	.3894	.2451	2.866	2.044
#1	58.96	10.72	210.4	19.35	7.630	23.91	.0253	.0095
#2	59.08	10.69	211.0	19.34	7.666	23.92	.0241	.0092
#3	58.84	10.69	210.0	19.27	7.607	23.81	.0241	.0094

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.532**	**.0211**	**.0665**	**.4113**	**.0054**	**.0949**	**1.007**	**.0019**
Stddev	.005	.0003	.0004	.0042	.0008	.0011	.005	.0008
%RSD	.3609	1.583	.6499	1.018	14.55	1.149	.5030	42.48
#1	1.538	.0207	.0660	.4089	.0059	.0941	1.010	.0014
#2	1.531	.0212	.0667	.4161	.0058	.0962	1.001	.0028
#3	1.527	.0214	.0669	.4088	.0045	.0945	1.010	.0015

Zoom In Zoom Out

Sample Name: jc86296-8 Acquired: 4/18/2019 21:03:43 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.1186**	**4.841**
Stddev	.0007	.015
%RSD	.5699	.3106
#1	.1185	4.851
#2	.1193	4.850
#3	.1180	4.824

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**107970.**	**5703.8**	**3967.4**	**7758.0**
Stddev	1213.	21.4	4.1	2.4
%RSD	1.1233	.37593	.10249	.03114
#1	108770.	5685.5	3964.3	7755.8
#2	106580.	5698.4	3966.0	7757.4
#3	108570.	5727.4	3972.0	7760.6

Zoom In Zoom Out

Sample Name: jc86383-1 Acquired: 4/18/2019 21:08:59 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6262**	**.0057**	**.0004**	**.0650**	**.1463**	**.1713**	**5.584**	**.1330**	**.0009**
Stddev	.0004	.0002	.0001	.0003	.0004	.0005	.007	.0001	.0003
%RSD	.0682	2.741	25.24	.4212	.2732	.2667	.1253	.0678	28.95
#1	.6257	.0059	.0004	.0652	.1465	.1711	5.591	.1329	.0011
#2	.6264	.0057	.0004	.0652	.1458	.1719	5.577	.1330	.0010
#3	.6265	.0056	.0006	.0647	.1465	.1710	5.585	.1330	.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2272**	**.4096**	**.0517**	**-.0001**	**.1328**	**-.0004**	**-.0012**	**122.8**	**2.819**
Stddev	.0008	.0002	.0027	.0007	.0002	.0020	.0004	.3	.006
%RSD	.3446	.0512	5.178	864.6	.1575	539.2	35.12	.2048	.2000
#1	.2264	.4098	.0486	.0005	.1330	-.0026	-.0008	122.5	2.812
#2	.2280	.4094	.0533	-.0008	.1326	.0001	-.0012	122.9	2.823
#3	.2273	.4096	.0532	.0001	.1328	.0013	-.0016	122.9	2.821

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**162.7**	**25.78**	**8.887**	**1.194**	**.0451**	**.0047**	**1.610**	**.0255**	**.0433**
Stddev	.4	.17	.036	.011	.0002	.0003	.010	.0003	.0002
%RSD	.2528	.6592	.4022	.9501	.5324	5.480	.6110	1.126	.3532
#1	162.4	25.75	8.912	1.206	.0454	.0045	1.622	.0258	.0432
#2	163.1	25.96	8.901	1.183	.0449	.0050	1.604	.0254	.0431
#3	162.4	25.62	8.846	1.194	.0452	.0046	1.605	.0254	.0434

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.133**	**.0129**	**.0221**	**1.464**	**.0003**	**.1619**	**2.573**
Stddev	.003	.0004	.0002	.002	.0005	.0015	.005
%RSD	.1226	2.791	.7453	.1629	178.2	.9543	.2030
#1	2.135	.0129	.0222	1.462	.0002	.1628	2.579
#2	2.130	.0132	.0220	1.466	.0008	.1627	2.568
#3	2.132	.0125	.0220	1.463	-.0001	.1601	2.572

Zoom In Zoom Out

Sample Name: jc86383-1 Acquired: 4/18/2019 21:08:59 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101530.**	**5363.0**	**3764.2**	**7744.9**
Stddev	202.	29.6	3.7	3.6
%RSD	.19905	.55262	.09870	.04688
#1	101400.	5372.6	3767.8	7741.5
#2	101760.	5329.7	3764.5	7748.7
#3	101430.	5386.6	3760.4	7744.6

Zoom In Zoom Out

Sample Name: jc86383-2 Acquired: 4/18/2019 21:14:14 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5986**	**.0080**	**-.0000**	**.1001**	**.2027**	**.1068**	**3.867**	**.2147**	**.0018**
Stddev	.0228	.0002	.0004	.0007	.0007	.0018	.003	.0007	.0027
%RSD	3.804	3.099	1534.	.6554	.3222	1.705	.0865	.3244	145.0
#1	.6249	.0083	.0002	.1003	.2032	.1089	3.871	.2150	.0049
#2	.5862	.0079	-.0004	.1007	.2020	.1059	3.865	.2152	.0008
#3	.5847	.0079	.0002	.0994	.2030	.1056	3.865	.2139	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2630**	**.4871**	**.0470**	**.0012**	**.1063**	**-.0005**	**-.0039**	**128.4**	**5.599**
Stddev	.0008	.0029	.0025	.0008	.0016	.0032	.0013	5.0	.236
%RSD	.3172	.5985	5.300	70.54	1.532	634.8	32.87	3.931	4.208
#1	.2634	.4887	.0497	.0018	.1055	.0032	-.0049	134.2	5.870
#2	.2620	.4889	.0447	.0002	.1082	-.0026	-.0025	125.6	5.447
#3	.2636	.4837	.0466	.0014	.1053	-.0020	-.0043	125.3	5.479

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **239.4**	**52.43**	**23.10**	**1.601**	**.1035**	**.0065**	**1.640**	**.0229**	**.0694**
Stddev	9.7	2.16	.95	.063	.0014	.0005	.016	.0003	.0026
%RSD	4.060	4.121	4.097	3.957	1.387	7.934	.9465	1.402	3.798
#1	250.6	54.93	24.19	1.674	.1051	.0071	1.652	.0226	.0724
#2	233.8	51.17	22.50	1.560	.1030	.0064	1.646	.0232	.0679
#3	233.8	51.20	22.60	1.570	.1024	.0060	1.623	.0230	.0678

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.254**	**.0080**	**.0726**	**.1140**	**-.0006**	**.2761**	**2.747**
Stddev	.003	.0001	.0008	.0045	.0029	.0089	.020
%RSD	.0858	1.537	1.089	3.916	466.0	3.235	.7114
#1	3.257	.0080	.0735	.1189	-.0039	.2863	2.754
#2	3.252	.0080	.0721	.1128	.0005	.2697	2.762
#3	3.254	.0078	.0723	.1102	.0015	.2723	2.725

Zoom In Zoom Out

Sample Name: jc86383-2 Acquired: 4/18/2019 21:14:14 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101940.**	**5290.6**	**3775.7**	**7706.6**
Stddev	186.	218.1	26.6	46.6
%RSD	.18241	4.1228	.70538	.60439
#1	101950.	5040.9	3757.5	7675.5
#2	102120.	5444.0	3763.4	7684.1
#3	101750.	5386.9	3806.3	7760.1

Zoom In Zoom Out

Sample Name: jc86383-3 Acquired: 4/18/2019 21:19:29 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4400**	**.0053**	**.0003**	**.0730**	**.1448**	**.1071**	**1.961**	**.1522**	**.0001**
Stddev	.0003	.0002	.0001	.0005	.0006	.0001	.003	.0009	.0002
%RSD	.0625	4.587	33.65	.6953	.4022	.1104	.1470	.5972	172.5
#1	.4404	.0056	.0003	.0725	.1454	.1072	1.963	.1515	-.0001
#2	.4399	.0052	.0002	.0730	.1442	.1071	1.962	.1520	.0003
#3	.4398	.0051	.0004	.0735	.1449	.1070	1.957	.1532	.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2163**	**.3307**	**.0367**	**-.0014**	**.0833**	**-.0014**	**-.0023**	**92.31**	**3.493**
Stddev	.0007	.0009	.0002	.0006	.0011	.0018	.0014	.07	.017
%RSD	.3083	.2801	.4651	44.49	1.355	127.8	63.63	.0735	.4801
#1	.2156	.3306	.0369	-.0018	.0838	-.0012	-.0039	92.39	3.511
#2	.2168	.3298	.0365	-.0015	.0820	.0003	-.0013	92.31	3.479
#3	.2166	.3316	.0368	-.0007	.0840	-.0033	-.0016	92.25	3.488

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**192.6**	**30.88**	**13.65**	**1.437**	**.0725**	**.0057**	**1.459**	**.0232**	**.0499**
Stddev	.3	.19	.06	.005	.0004	.0001	.003	.0003	.0001
%RSD	.1701	.6164	.4712	.3350	.5733	1.666	.1906	1.185	.2240
#1	193.0	31.09	13.70	1.432	.0723	.0056	1.462	.0235	.0500
#2	192.5	30.72	13.58	1.437	.0723	.0058	1.456	.0231	.0498
#3	192.4	30.84	13.68	1.441	.0730	.0058	1.458	.0230	.0499

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.769**	**.0066**	**.0581**	**.2963**	**.0008**	**.1599**	**1.786**
Stddev	.005	.0005	.0003	.0017	.0022	.0021	.006
%RSD	.1891	6.952	.5469	.5803	276.1	1.324	.3223
#1	2.774	.0071	.0579	.2943	.0022	.1591	1.780
#2	2.769	.0066	.0580	.2975	-.0017	.1623	1.787
#3	2.764	.0061	.0585	.2970	.0019	.1582	1.792

Zoom In / Zoom Out

Sample Name: jc86383-3 Acquired: 4/18/2019 21:19:29 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102300.**	**5356.2**	**3772.8**	**7766.2**
Stddev	253.	22.8	3.3	4.4
%RSD	.24723	.42615	.08765	.05621
#1	102030.	5333.8	3769.0	7766.1
#2	102320.	5379.4	3774.6	7770.6
#3	102540.	5355.5	3774.8	7761.9

Zoom In / Zoom Out

Sample Name: jc86383-4 Acquired: 4/18/2019 21:24:45 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2997**	**.0029**	**-.0000**	**.0388**	**.0912**	**.0580**	**1.147**	**.0887**	**.0002**
Stddev	.0020	.0001	.0001	.0002	.0004	.0002	.001	.0006	.0002
%RSD	.6779	4.645	301.3	.5762	.4164	.4085	.1078	.6547	133.2
#1	.3014	.0028	-.0001	.0389	.0916	.0583	1.147	.0885	.0004
#2	.2974	.0030	.0001	.0390	.0908	.0579	1.145	.0894	.0000
#3	.3003	.0028	-.0001	.0386	.0911	.0578	1.148	.0883	.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1090**	**.2035**	**.0190**	**.0004**	**.0505**	**-.0015**	**-.0016**	**55.61**	**4.581**
Stddev	.0002	.0010	.0011	.0005	.0011	.0009	.0004	.24	.021
%RSD	.1563	.4701	5.562	120.8	2.138	61.86	22.88	.4243	.4650
#1	.1092	.2038	.0178	-.0002	.0493	-.0026	-.0014	55.82	4.603
#2	.1090	.2043	.0195	.0006	.0514	-.0008	-.0020	55.35	4.560
#3	.1089	.2025	.0198	.0008	.0508	-.0012	-.0014	55.66	4.580

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**104.5**	**20.04**	**9.713**	**.9817**	**.0568**	**.0027**	**1.438**	**.0216**	**.0340**
Stddev	.4	.06	.049	.0014	.0010	.0002	.015	.0006	.0001
%RSD	.4185	.3123	.5069	.1411	1.683	6.398	1.023	2.877	.3908
#1	105.0	20.12	9.685	.9814	.0576	.0026	1.449	.0211	.0341
#2	104.1	20.00	9.685	.9805	.0571	.0026	1.444	.0223	.0339
#3	104.4	20.02	9.770	.9833	.0558	.0029	1.421	.0214	.0341

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.881**	**.0048**	**.0475**	**.0747**	**-.0029**	**.1000**	**1.882**
Stddev	.001	.0003	.0001	.0005	.0016	.0013	.015
%RSD	.0501	6.436	.2493	.6473	54.32	1.291	.7762
#1	1.881	.0045	.0476	.0747	-.0030	.0988	1.894
#2	1.879	.0048	.0474	.0751	-.0044	.0998	1.886
#3	1.881	.0051	.0475	.0741	-.0013	.1013	1.866

Zoom In / Zoom Out

Sample Name: jc86383-4 Acquired: 4/18/2019 21:24:45 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102380.**	**5307.4**	**3773.1**	**7891.7**
Stddev	198.	28.4	27.4	46.2
%RSD	.19350	.53565	.72728	.58532
#1	102430.	5274.7	3755.7	7868.3
#2	102540.	5321.4	3758.8	7861.8
#3	102160.	5326.1	3804.7	7944.9

Zoom In / Zoom Out

Sample Name: jc86384-1 Acquired: 4/18/2019 21:30:03 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4602**	**.0048**	**.0009**	**.0483**	**.2994**	**.2550**	**1.845**	**.1462**	**.0007**
Stddev	.0013	.0001	.0002	.0003	.0015	.0007	.003	.0006	.0003
%RSD	.2818	2.189	16.64	.5349	.4996	.2619	.1333	.3854	43.73
#1	.4613	.0047	.0008	.0482	.3003	.2558	1.843	.1468	.0005
#2	.4588	.0049	.0009	.0480	.2976	.2546	1.843	.1461	.0010
#3	.4606	.0049	.0011	.0485	.3002	.2546	1.847	.1457	.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2804**	**.4350**	**.0584**	**.0015**	**.4164**	**.0018**	**.0008**	**98.33**	**12.54**
Stddev	.0006	.0005	.0021	.0007	.0021	.0002	.0007	.36	.08
%RSD	.2290	.1155	3.593	49.02	.5118	8.583	97.16	.3620	.6242
#1	.2808	.4355	.0606	.0023	.4189	.0019	.0012	98.40	12.47
#2	.2797	.4345	.0564	.0009	.4149	.0016	.0012	97.94	12.52
#3	.2807	.4351	.0581	.0011	.4156	.0019	-.0001	98.64	12.62

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**175.5**	**17.63**	**8.102**	**.9862**	**.0417**	**.0155**	**1.665**	**.0421**	**.0941**
Stddev	.3	.08	.040	.0094	.0004	.0005	.009	.0006	.0004
%RSD	.1779	.4359	.4891	.9487	1.062	3.058	.5363	1.436	.4110
#1	175.8	17.55	8.147	.9906	.0412	.0160	1.675	.0428	.0943
#2	175.2	17.64	8.071	.9754	.0417	.0152	1.662	.0419	.0936
#3	175.5	17.70	8.088	.9925	.0421	.0152	1.658	.0417	.0942

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.077**	**.0076**	**.0394**	**1.373**	**.0029**	**.1190**	**2.214**
Stddev	.002	.0008	.0003	.004	.0014	.0006	.005
%RSD	.1046	10.44	.6652	.2723	48.34	.5334	.2133
#1	2.078	.0079	.0397	1.377	.0020	.1185	2.219
#2	2.075	.0067	.0392	1.370	.0023	.1197	2.212
#3	2.079	.0081	.0392	1.373	.0046	.1188	2.210

Zoom In Zoom Out

Sample Name: jc86384-1 Acquired: 4/18/2019 21:30:03 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102050.**	**5403.4**	**3782.0**	**7815.8**
Stddev	79.	14.8	6.4	6.4
%RSD	.07778	.27477	.16938	.08180
#1	102040.	5406.6	3787.0	7820.8
#2	102140.	5416.3	3784.1	7818.0
#3	101990.	5387.2	3774.8	7808.6

Zoom In Zoom Out

Sample Name: jc86384-2 Acquired: 4/18/2019 21:35:19 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4740**	**.0056**	**.0006**	**.0588**	**.2017**	**.1766**	**1.053**	**.2064**	**.0015**
Stddev	.0007	.0002	.0001	.0004	.0010	.0001	.000	.0014	.0003
%RSD	.1525	3.716	21.17	.6083	.4847	.0395	.0354	.6749	21.26
#1	.4733	.0056	.0006	.0587	.2025	.1767	1.054	.2055	.0011
#2	.4747	.0054	.0005	.0592	.2006	.1766	1.053	.2080	.0017
#3	.4741	.0058	.0007	.0585	.2019	.1766	1.053	.2058	.0016

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2750**	**.4513**	**.0400**	**.0010**	**.2618**	**.0005**	**-.0014**	**113.2**	**14.23**
Stddev	.0013	.0028	.0007	.0012	.0023	.0007	.0016	.1	.03
%RSD	.4741	.6219	1.653	117.9	.8746	134.2	108.2	.1028	.2189
#1	.2752	.4509	.0407	.0024	.2611	.0013	-.0011	113.1	14.20
#2	.2736	.4543	.0394	.0001	.2644	-.0001	-.0001	113.1	14.23
#3	.2762	.4487	.0399	.0005	.2599	.0004	-.0032	113.3	14.27

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**151.4**	**22.51**	**11.97**	**.9715**	**.0545**	**.0036**	**1.759**	**.0294**	**.1137**
Stddev	.5	.24	.04	.0092	.0007	.0002	.015	.0011	.0007
%RSD	.3454	1.071	.3176	.9472	1.213	4.776	.8272	3.711	.6413
#1	150.9	22.26	11.93	.9773	.0547	.0034	1.757	.0282	.1131
#2	151.4	22.53	11.97	.9609	.0550	.0036	1.774	.0303	.1135
#3	151.9	22.74	12.00	.9763	.0538	.0037	1.745	.0297	.1145

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.567**	**.0064**	**.0290**	**.8936**	**-.0031**	**.1665**	**2.004**
Stddev	.002	.0007	.0001	.0056	.0010	.0017	.012
%RSD	.0583	10.51	.5103	.6282	33.65	1.050	.5858
#1	2.565	.0067	.0288	.8905	-.0027	.1683	1.993
#2	2.568	.0056	.0291	.9001	-.0023	.1648	2.017
#3	2.566	.0068	.0290	.8903	-.0043	.1666	2.002

Zoom In Zoom Out

Sample Name: jc86384-2 Acquired: 4/18/2019 21:35:19 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103320.**	**5363.2**	**3801.9**	**7703.5**
Stddev	152.	28.4	18.3	33.0
%RSD	.14702	.52996	.48242	.42841
#1	103480.	5388.3	3811.6	7722.2
#2	103180.	5368.9	3780.7	7665.4
#3	103300.	5332.4	3813.3	7723.0

Zoom In Zoom Out

Sample Name: jc85722-33r Acquired: 4/18/2019 21:40:35 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.114**	**.0057**	**.0057**	**.1185**	**.1559**	**.3418**	**3.062**	**.2080**	**.0009**
Stddev	.006	.0001	.0002	.0020	.0006	.0015	.002	.0030	.0002
%RSD	.5038	1.807	3.204	1.714	.3780	.4256	.0787	1.425	25.00
#1	1.117	.0057	.0059	.1208	.1566	.3435	3.061	.2115	.0010
#2	1.118	.0056	.0055	.1176	.1556	.3407	3.061	.2062	.0012
#3	1.108	.0058	.0057	.1171	.1555	.3413	3.065	.2065	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2498**	**2.723**	**.0838**	**.0010**	**1.501**	**.0024**	**.0019**	**91.37**	**27.50**
Stddev	.0016	.040	.0023	.0010	.020	.0013	.0008	.48	.18
%RSD	.6306	1.470	2.740	95.19	1.343	53.94	39.67	.5213	.6444
#1	.2503	2.769	.0859	.0021	1.524	.0033	.0015	91.41	27.49
#2	.2510	2.702	.0814	.0002	1.491	.0009	.0028	91.82	27.68
#3	.2480	2.697	.0842	.0008	1.488	.0031	.0015	90.87	27.33

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**118.0**	**11.81**	**7.863**	**1.282**	**.0298**	**.0122**	**1.753**	**.1278**	**.4031**
Stddev	.7	.07	.048	.015	.0006	.0001	.032	.0019	.0022
%RSD	.6256	.5907	.6080	1.143	2.163	.7660	1.807	1.499	.5559
#1	118.3	11.73	7.854	1.298	.0291	.0123	1.790	.1300	.4037
#2	118.5	11.87	7.915	1.279	.0303	.0122	1.735	.1267	.4050
#3	117.1	11.82	7.821	1.269	.0301	.0122	1.735	.1267	.4006

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.104**	**.0090**	**.0555**	**.9925**	**-.0035**	**.1429**	**5.462**
Stddev	.003	.0014	.0003	.0126	.0006	.0005	.085
%RSD	.1499	15.20	.5811	1.271	18.15	.3305	1.546
#1	2.106	.0105	.0556	1.007	-.0031	.1430	5.559
#2	2.100	.0089	.0558	.9838	-.0043	.1434	5.420
#3	2.105	.0077	.0552	.9867	-.0033	.1424	5.406

Zoom In Zoom Out

Sample Name: jc85722-33r Acquired: 4/18/2019 21:40:35 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102910.**	**5400.5**	**3784.9**	**7706.1**
Stddev	160.	25.9	49.9	100.0
%RSD	.15584	.47891	1.3171	1.2979
#1	102870.	5401.1	3727.6	7590.9
#2	103080.	5374.4	3808.5	7756.2
#3	102760.	5426.1	3818.5	7771.1

Zoom In Zoom Out

Sample Name: jc85722-36r Acquired: 4/18/2019 21:45:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.580**	**.0065**	**.0045**	**.0895**	**1.146**	**1.601**	**2.542**	**.1784**	**.0045**
Stddev	.195	.0004	.0003	.0005	.003	.002	.003	.0010	.0034
%RSD	7.559	5.930	5.539	.5063	.2241	.1478	.1055	.5608	76.17
#1	2.470	.0063	.0042	.0895	1.143	1.601	2.543	.1790	.0027
#2	2.464	.0062	.0047	.0899	1.146	1.599	2.539	.1790	.0023
#3	2.805	.0069	.0046	.0890	1.148	1.603	2.544	.1773	.0084

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2404**	**3.354**	**.1745**	**.0010**	F **8.992**	**.0069**	**.0015**	**95.22**	**27.20**
Stddev	.0007	.007	.0019	.0007	.014	.0034	.0006	7.42	2.03
%RSD	.2775	.2125	1.077	75.17	.1496	49.49	41.78	7.794	7.476
#1	.2405	3.362	.1736	.0006	9.005	.0071	.0023	90.91	26.08
#2	.2397	3.350	.1733	.0005	8.992	.0034	.0012	90.97	25.98
#3	.2410	3.350	.1767	.0018	8.979	.0102	.0011	103.8	29.55

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**154.0**	**14.85**	**8.421**	**1.085**	**.0367**	**.0112**	**1.691**	**.2286**	**.4027**
Stddev	11.7	1.12	.631	.086	.0009	.0001	.005	.0008	.0305
%RSD	7.570	7.538	7.491	7.953	2.362	1.023	.2992	.3605	7.585
#1	147.6	14.22	8.074	1.034	.0365	.0113	1.696	.2288	.3861
#2	147.0	14.18	8.039	1.037	.0359	.0110	1.691	.2293	.3840
#3	167.5	16.14	9.149	1.185	.0376	.0111	1.686	.2277	.4380

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.569**	**.0126**	**.0521**	**2.408**	**.0024**	**.1400**	**7.421**
Stddev	.002	.0001	.0009	.006	.0016	.0109	.004
%RSD	.0641	.6912	1.823	.2440	64.12	7.758	.0468
#1	2.569	.0125	.0515	2.412	.0035	.1323	7.425
#2	2.567	.0126	.0515	2.401	.0032	.1353	7.418
#3	2.570	.0127	.0531	2.410	.0006	.1525	7.419

Zoom In Zoom Out

Sample Name: jc85722-36r Acquired: 4/18/2019 21:45:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102870.**	**5253.8**	**3797.7**	**7781.9**
Stddev	92.	315.1	5.7	4.5
%RSD	.08895	5.9971	.15123	.05745
#1	102870.	5439.5	3793.3	7778.6
#2	102960.	5431.9	3804.2	7787.0
#3	102770.	4890.0	3795.7	7780.1

Zoom In Zoom Out

Sample Name: jc85722-37r Acquired: 4/18/2019 21:51:03 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **28.39**	**.0049**	**.0070**	**.0845**	**.3667**	**1.248**	**3.346**	**.1817**
Stddev	.28	.0000	.0002	.0003	.0009	.001	.004	.0007
%RSD	.9714	.8572	2.334	.3151	.2549	.0854	.1191	.3890
#1	28.52	.0049	.0071	.0848	.3674	1.248	3.347	.1816
#2	28.07	.0048	.0070	.0843	.3669	1.250	3.349	.1825
#3	28.58	.0049	.0068	.0846	.3656	1.248	3.341	.1811

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0072**	**.2384**	F **22.42**	**.1920**	F **-.0040**	F **166.9**	**.0077**	**.0141**
Stddev	.0003	.0002	.01	.0010	.0018	.4	.0020	.0024
%RSD	4.415	.0791	.0317	.5123	43.97	.2674	25.68	17.26
#1	.0075	.2383	22.43	.1928	-.0020	167.1	.0059	.0153
#2	.0069	.2386	22.41	.1909	-.0050	167.2	.0098	.0157
#3	.0072	.2383	22.42	.1922	-.0051	166.4	.0075	.0113

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**65.56**	**141.6**	**148.1**	**12.98**	**7.987**	**3.112**	**.0413**	**.0219**
Stddev	.05	.2	.1	.07	.024	.005	.0005	.0001
%RSD	.0776	.1126	.0767	.5285	.3006	.1534	1.286	.3990
#1	65.61	141.6	148.0	12.93	7.982	3.109	.0415	.0218
#2	65.55	141.4	148.0	13.06	7.965	3.110	.0407	.0219
#3	65.51	141.7	148.2	12.95	8.013	3.118	.0417	.0219

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.491**	**.5910**	**1.517**	**1.567**	**.0589**	**.0277**	**9.692**	**-.0016**
Stddev	.006	.0016	.002	.002	.0015	.0000	.019	.0009
%RSD	.4244	.2705	.0973	.1514	2.523	.1770	.1954	57.98
#1	1.498	.5897	1.518	1.566	.0593	.0278	9.686	-.0006
#2	1.485	.5928	1.515	1.570	.0601	.0277	9.676	-.0017
#3	1.491	.5905	1.516	1.565	.0572	.0277	9.713	-.0025

Zoom In Zoom Out

Sample Name: jc85722-37r Acquired: 4/18/2019 21:51:03 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0736**	F **53.00**
Stddev	.0012	.12
%RSD	1.606	.2180
#1	.0723	52.89
#2	.0745	52.98
#3	.0740	53.12

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100300.**	**5272.0**	**3608.7**	**7567.1**
Stddev	168.	16.0	4.2	1.0
%RSD	.16765	.30278	.11702	.01302
#1	100120.	5284.4	3606.4	7568.3
#2	100440.	5277.5	3613.5	7566.7
#3	100350.	5254.0	3606.0	7566.4

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 21:56:34 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.004**	**1.986**	**1.989**	**1.995**	**1.957**	**1.941**	**1.968**	**1.987**	**.2421**
Stddev	.000	.005	.002	.002	.002	.003	.002	.002	.0003
%RSD	.0186	.2452	.0949	.1155	.1162	.1545	.1042	.0820	.1357
#1	2.003	1.985	1.991	1.996	1.959	1.944	1.969	1.988	.2418
#2	2.004	1.991	1.989	1.993	1.958	1.938	1.965	1.986	.2423
#3	2.004	1.981	1.988	1.997	1.954	1.941	1.969	1.988	.2424
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.939**	**1.966**	**1.984**	**2.044**	**2.000**	**2.012**	**2.020**	**39.44**	**39.79**
Stddev	.001	.002	.001	.004	.004	.005	.002	.11	.07
%RSD	.0280	.1057	.0644	.2102	.1781	.2418	.1153	.2753	.1722
#1	1.940	1.967	1.985	2.041	1.999	2.016	2.023	39.51	39.84
#2	1.939	1.964	1.984	2.042	1.997	2.007	2.018	39.32	39.71
#3	1.939	1.968	1.982	2.049	2.004	2.015	2.020	39.50	39.81
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.75**	**38.53**	**39.20**	**40.07**	**2.057**	**2.004**	**5.162**	**1.999**	**2.025**
Stddev	.09	.13	.04	.10	.001	.002	.007	.003	.003
%RSD	.2151	.3255	.1111	.2448	.0506	.0746	.1363	.1496	.1432
#1	39.71	38.39	39.24	40.14	2.058	2.005	5.170	1.999	2.022
#2	39.85	38.63	39.15	39.96	2.056	2.002	5.159	1.996	2.028
#3	39.70	38.56	39.21	40.11	2.058	2.004	5.158	2.002	2.024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 21:56:34 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.922**	**1.967**	**1.935**	**2.033**	**2.071**	**1.951**	**2.001**
Stddev	.002	.003	.003	.007	.003	.001	.004
%RSD	.0871	.1457	.1331	.3337	.1566	.0669	.2043
#1	1.923	1.969	1.938	2.028	2.073	1.951	2.002
#2	1.922	1.964	1.933	2.032	2.067	1.950	1.997
#3	1.920	1.968	1.933	2.041	2.072	1.952	2.005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96673.**	**5065.2**	**3582.0**	**7475.3**
Stddev	92.	9.3	3.9	4.9
%RSD	.09469	.18424	.10843	.06503
#1	96577.	5058.6	3577.7	7474.1
#2	96683.	5061.2	3585.2	7480.6
#3	96759.	5075.9	3583.1	7471.1

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 22:01:36 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0001**	**-.0000**	**-.0000**	**.0004**	**-.0001**	**-.0000**	**.0002**	**-.0007**
Stddev	.0003	.0000	.0001	.0000	.0001	.0002	.0001	.0002	.0002
%RSD	98.60	45.08	1396.	123.4	14.79	212.6	165.1	74.72	32.46
#1	-.0004	-.0001	-.0001	-.0000	.0003	-.0001	-.0000	.0004	-.0007
#2	.0000	-.0000	.0000	-.0000	.0004	-.0004	.0000	.0001	-.0005
#3	-.0005	-.0001	.0001	-.0001	.0004	.0001	-.0001	.0002	-.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0001**	**-.0001**	**-.0003**	**-.0007**	**.0002**	**.0006**	**-.0062**	**.0034**
Stddev	.0002	.0001	.0007	.0000	.0003	.0011	.0002	.0118	.0071
%RSD	194.3	85.19	755.8	8.653	48.85	461.7	27.55	190.3	208.7
#1	.0003	-.0000	.0004	-.0003	-.0010	.0015	.0005	-.0168	.0046
#2	.0002	-.0001	-.0008	-.0003	-.0003	-.0007	.0008	-.0082	-.0042
#3	-.0001	-.0002	.0002	-.0003	-.0008	-.0001	.0005	.0065	.0099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0021**	**.0058**	**.0287**	**.0148**	**.0015**	**.0003**	**.0021**	**-.0002**	**.0000**
Stddev	.0025	.0281	.0220	.0027	.0009	.0001	.0003	.0002	.0000
%RSD	114.8	485.9	76.73	18.24	56.16	45.29	14.39	112.9	85.20
#1	-.0006	-.0204	.0268	.0179	.0025	.0003	.0022	-.0004	.0001
#2	.0042	.0356	.0516	.0130	.0012	.0003	.0018	.0000	.0000
#3	.0029	.0022	.0077	.0135	.0009	.0001	.0024	-.0002	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 22:01:36 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0012**	**.0001**	**.0053**	**-.0006**	**.0033**	**.0067**
Stddev	.0004	.0002	.0001	.0009	.0001	.0016	.0002
%RSD	156.6	19.16	123.4	17.35	22.13	50.08	3.131
#1	-.0001	.0009	.0000	.0043	-.0008	.0030	.0064
#2	.0000	.0014	.0003	.0054	-.0005	.0050	.0068
#3	-.0007	.0012	.0001	.0061	-.0006	.0018	.0067
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100810.**	**5104.0**	**3683.6**	**8322.5**
Stddev	258.	24.9	1.9	6.6
%RSD	.25594	.48704	.05043	.07949
#1	100770.	5094.8	3685.6	8329.6
#2	100580.	5085.1	3683.5	8321.4
#3	101090.	5132.2	3681.8	8316.5

Zoom In Zoom Out

Sample Name: jc85722-38r Acquired: 4/18/2019 22:07:07 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.291**	**.0053**	**.0023**	**.0643**	**.2002**	**.7935**	**2.275**	**.1214**	**.0016**
Stddev	.004	.0002	.0002	.0013	.0004	.0013	.005	.0025	.0005
%RSD	.3153	3.015	10.78	2.032	.2132	.1678	.2173	2.064	32.27
#1	1.294	.0052	.0021	.0651	.2005	.7944	2.280	.1226	.0014
#2	1.294	.0055	.0025	.0649	.2003	.7941	2.273	.1231	.0022
#3	1.287	.0052	.0021	.0628	.1997	.7920	2.271	.1185	.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2882**	**3.504**	**.0955**	**.0014**	**1.924**	**.0025**	**-.0001**	**99.45**	**46.39**
Stddev	.0018	.080	.0010	.0009	.039	.0021	.0012	.34	.30
%RSD	.6199	2.283	1.084	64.10	2.036	81.55	1101.	.3455	.6474
#1	.2892	3.549	.0967	.0022	1.949	.0016	-.0015	99.75	46.68
#2	.2861	3.552	.0949	.0016	1.943	.0011	.0006	99.53	46.41
#3	.2892	3.412	.0948	.0004	1.878	.0049	.0006	99.08	46.08

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**154.4**	**15.28**	**9.080**	**1.533**	**.0453**	**.0149**	**1.337**	**.0937**	**.4937**
Stddev	.9	.05	.005	.005	.0006	.0002	.029	.0020	.0015
%RSD	.6112	.3499	.0547	.3160	1.357	1.004	2.180	2.148	.3052
#1	155.3	15.34	9.085	1.535	.0457	.0151	1.358	.0946	.4954
#2	154.4	15.25	9.076	1.537	.0456	.0150	1.350	.0951	.4933
#3	153.5	15.25	9.078	1.527	.0446	.0148	1.304	.0914	.4925

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.645**	**.0095**	**.0652**	**1.087**	**-.0021**	**.1582**	**6.281**
Stddev	.006	.0006	.0005	.015	.0018	.0018	.132
%RSD	.2318	6.099	.8194	1.383	84.65	1.146	2.101
#1	2.651	.0100	.0653	1.093	-.0022	.1599	6.339
#2	2.643	.0097	.0646	1.099	-.0003	.1584	6.374
#3	2.639	.0088	.0656	1.070	-.0038	.1563	6.130

Zoom In Zoom Out

Sample Name: jc85722-38r Acquired: 4/18/2019 22:07:07 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101880.**	**5375.5**	**3811.1**	**7775.3**
Stddev	264.	60.5	72.4	133.2
%RSD	.25958	1.1248	1.8998	1.7136
#1	101570.	5313.1	3770.0	7698.4
#2	102050.	5379.6	3768.6	7698.4
#3	102010.	5433.8	3894.7	7929.2

Zoom In Zoom Out

Sample Name: jc85722-39r Acquired: 4/18/2019 22:12:22 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.468**	**.0063**	**.0019**	**.0854**	**.4215**	**2.853**	**3.109**	**.2062**
Stddev	.000	.0001	.0002	.0029	.0032	.006	.006	.0055
%RSD	.0094	2.283	10.63	3.444	.7596	.2132	.2056	2.657
#1	1.469	.0062	.0020	.0838	.4212	2.848	3.106	.2025
#2	1.468	.0064	.0020	.0888	.4184	2.850	3.105	.2125
#3	1.468	.0064	.0017	.0836	.4248	2.860	3.116	.2036

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0130**	**.2593**	**3.581**	**.1693**	**-.0005**	**2.312**	**.0024**	**.0022**
Stddev	.0008	.0009	.103	.0038	.0021	.058	.0020	.0011
%RSD	5.907	.3489	2.884	2.232	410.5	2.496	85.45	47.27
#1	-.0134	.2600	3.524	.1678	.0000	2.281	.0030	.0033
#2	-.0122	.2583	3.700	.1736	-.0028	2.379	.0001	.0012
#3	-.0135	.2596	3.518	.1665	.0013	2.277	.0041	.0021

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**97.61**	**54.85**	F **534.4**	**19.54**	**11.90**	**4.865**	**.0945**	**.0333**
Stddev	.19	.14	1.4	.14	.02	.007	.0025	.0007
%RSD	.1939	.2599	.2634	.7274	.1526	.1497	2.682	2.222
#1	97.55	54.77	534.6	19.38	11.88	4.862	.0934	.0329
#2	97.82	55.02	535.7	19.64	11.91	4.874	.0973	.0342
#3	97.45	54.77	532.9	19.60	11.91	4.860	.0926	.0329

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.533**	**.2766**	**.4571**	**7.618**	**.0170**	**.0595**	**3.909**	**.0272**
Stddev	.118	.0081	.0007	.013	.0004	.0003	.110	.0032
%RSD	3.331	2.933	.1461	.1666	2.597	.5299	2.826	11.95
#1	3.474	.2723	.4578	7.614	.0171	.0596	3.837	.0291
#2	3.669	.2859	.4571	7.609	.0175	.0592	4.036	.0290
#3	3.457	.2715	.4564	7.633	.0166	.0598	3.853	.0234

Zoom In Zoom Out

Sample Name: jc85722-39r Acquired: 4/18/2019 22:12:22 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.1866**	**6.452**
Stddev	.0005	.185
%RSD	.2589	2.870
#1	.1868	6.347
#2	.1861	6.666
#3	.1870	6.343

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99904.**	**5360.0**	**3597.3**	**7726.5**
Stddev	140.	22.7	85.7	160.9
%RSD	.14022	.42279	2.3831	2.0825
#1	99922.	5361.8	3650.3	7816.4
#2	100030.	5336.4	3498.4	7540.8
#3	99755.	5381.7	3643.3	7822.4

Zoom In Zoom Out

Sample Name: jc85722-40r Acquired: 4/18/2019 22:17:32 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.051**	**.0054**	**.0034**	**.0776**	**.2411**	**.9804**	**1.718**	**.1812**	**.0045**
Stddev	.006	.0002	.0001	.0003	.0018	.0021	.003	.0005	.0002
%RSD	.2877	4.264	4.042	.3878	.7388	.2102	.1612	.2636	5.097
#1	2.048	.0055	.0035	.0773	.2400	.9827	1.716	.1810	.0046
#2	2.057	.0055	.0035	.0779	.2401	.9798	1.716	.1817	.0047
#3	2.047	.0051	.0033	.0775	.2431	.9787	1.721	.1808	.0042

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2519**	**2.848**	**.1472**	**.0002**	**5.343**	**.0048**	**.0067**	**85.00**	**56.21**
Stddev	.0003	.001	.0019	.0008	.005	.0010	.0005	.18	.16
%RSD	.1027	.0237	1.324	442.7	.0854	21.25	6.762	.2126	.2895
#1	.2522	2.849	.1493	-.0003	5.338	.0052	.0066	84.93	56.24
#2	.2518	2.847	.1454	.0011	5.347	.0036	.0072	85.21	56.36
#3	.2517	2.847	.1470	-.0003	5.345	.0055	.0064	84.86	56.04

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**136.1**	**10.81**	**8.117**	**1.681**	**.0419**	**.0148**	**1.479**	**.5179**	**.7294**
Stddev	.4	.05	.052	.005	.0002	.0001	.012	.0017	.0017
%RSD	.3241	.4436	.6430	.2899	.5454	.7389	.8201	.3305	.2343
#1	136.2	10.77	8.084	1.676	.0420	.0147	1.490	.5182	.7292
#2	136.5	10.86	8.177	1.683	.0416	.0149	1.480	.5194	.7312
#3	135.7	10.81	8.090	1.685	.0420	.0147	1.466	.5160	.7278

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.830**	**.0093**	**.0451**	**2.502**	**-.0008**	**.1256**	F **12.98**
Stddev	.003	.0005	.0002	.005	.0003	.0007	.01
%RSD	.1571	5.109	.3535	.2136	35.48	.5215	.0550
#1	1.828	.0087	.0453	2.508	-.0005	.1254	12.98
#2	1.829	.0096	.0451	2.500	-.0011	.1250	12.98
#3	1.833	.0095	.0449	2.498	-.0009	.1263	12.97

Zoom In Zoom Out

Sample Name: jc85722-40r Acquired: 4/18/2019 22:17:32 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101940.**	**5378.4**	**3738.3**	**7709.0**
Stddev	361.	9.7	1.5	4.9
%RSD	.35384	.18113	.04011	.06330
#1	102350.	5373.5	3737.8	7713.6
#2	101810.	5372.0	3740.0	7709.4
#3	101660.	5389.6	3737.2	7703.9

Zoom In Zoom Out

Sample Name: jc85722-42r Acquired: 4/18/2019 22:22:45 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.876**	**.0049**	**.0029**	**.1011**	**.1733**	**.6827**	**2.312**	**.2971**	**-.0030**
Stddev	.004	.0001	.0001	.0005	.0006	.0015	.001	.0007	.0006
%RSD	.2398	2.314	4.793	.5209	.3215	.2159	.0579	.2251	20.15
#1	1.872	.0048	.0029	.1006	.1739	.6842	2.314	.2966	-.0034
#2	1.875	.0050	.0031	.1010	.1731	.6827	2.311	.2969	-.0023
#3	1.881	.0050	.0028	.1017	.1728	.6812	2.311	.2979	-.0032

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2157**	**3.611**	**.2626**	**-.0012**	F **25.95**	**.0033**	**.0124**	**72.13**	**33.72**
Stddev	.0008	.004	.0013	.0009	.03	.0019	.0011	.08	.03
%RSD	.3545	.0956	.5022	75.37	.1181	56.58	8.909	.1062	.0876
#1	.2165	3.615	.2611	-.0018	25.98	.0054	.0132	72.05	33.69
#2	.2150	3.608	.2636	-.0016	25.93	.0026	.0128	72.14	33.72
#3	.2157	3.609	.2631	-.0002	25.93	.0019	.0111	72.20	33.75

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **381.1**	**15.17**	**6.797**	**1.020**	**.0287**	**.0349**	**1.487**	F **8.830**	**.3701**
Stddev	.7	.04	.031	.006	.0001	.0002	.006	.002	.0009
%RSD	.1790	.2940	.4599	.6286	.3437	.5685	.4165	.0267	.2387
#1	380.3	15.21	6.776	1.025	.0288	.0347	1.494	8.830	.3692
#2	381.6	15.12	6.833	1.023	.0286	.0349	1.486	8.832	.3701
#3	381.3	15.17	6.781	1.013	.0287	.0351	1.482	8.828	.3710

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.717**	**.0130**	**.0204**	**2.151**	**.0177**	**.1106**	F **9.130**
Stddev	.002	.0001	.0001	.009	.0005	.0012	.030
%RSD	.1050	1.023	.5437	.4129	3.083	1.066	.3249
#1	1.719	.0130	.0203	2.145	.0170	.1097	9.102
#2	1.715	.0131	.0205	2.148	.0179	.1119	9.126
#3	1.717	.0128	.0203	2.162	.0180	.1101	9.161

Zoom In Zoom Out

Sample Name: jc85722-42r Acquired: 4/18/2019 22:22:45 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100310.**	**5293.5**	**3673.8**	**7883.7**
Stddev	194.	10.8	.8	4.4
%RSD	.19380	.20484	.02312	.05550
#1	100210.	5303.7	3673.1	7880.5
#2	100530.	5282.1	3674.7	7888.7
#3	100170.	5294.6	3673.5	7881.8

Zoom In Zoom Out

Sample Name: jc85722-43r Acquired: 4/18/2019 22:27:55 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.605**	**.0049**	**.0017**	**.0718**	**.1407**	**.3131**	**.7593**	**.1755**	**.0029**
Stddev	.017	.0001	.0002	.0002	.0012	.0006	.0005	.0003	.0006
%RSD	1.067	2.657	10.45	.2258	.8767	.1845	.0611	.1576	21.07
#1	1.620	.0049	.0018	.0717	.1394	.3126	.7592	.1757	.0030
#2	1.609	.0051	.0015	.0720	.1419	.3137	.7598	.1752	.0034
#3	1.586	.0048	.0017	.0718	.1409	.3130	.7589	.1754	.0022

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2139**	**1.355**	**.0637**	**.0019**	**2.341**	**.0038**	**.0014**	**66.81**	F **229.6**
Stddev	.0010	.002	.0004	.0012	.002	.0012	.0000	.64	2.9
%RSD	.4737	.1439	.6793	61.05	.0920	31.48	3.079	.9517	1.258
#1	.2128	1.357	.0633	.0033	2.343	.0030	.0014	67.27	232.2
#2	.2147	1.353	.0636	.0013	2.340	.0032	.0013	67.08	230.2
#3	.2144	1.355	.0642	.0012	2.339	.0052	.0014	66.09	226.5

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**93.74**	**8.209**	**7.237**	**3.888**	**.0357**	**.0134**	**1.454**	**.3649**	**1.882**
Stddev	1.12	.104	.128	.039	.0003	.0002	.017	.0008	.022
%RSD	1.194	1.262	1.762	.9966	.8078	1.829	1.167	.2296	1.187
#1	94.78	8.238	7.382	3.927	.0359	.0132	1.474	.3659	1.903
#2	93.89	8.296	7.186	3.886	.0358	.0137	1.446	.3646	1.885
#3	92.56	8.095	7.143	3.850	.0354	.0134	1.443	.3643	1.859

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.805**	**.0083**	**.0390**	**2.104**	**-.0030**	**.0933**	**6.274**
Stddev	.001	.0004	.0001	.004	.0006	.0010	.004
%RSD	.0703	4.978	.3275	.2058	21.03	1.108	.0557
#1	1.806	.0085	.0389	2.102	-.0028	.0928	6.271
#2	1.806	.0086	.0391	2.101	-.0037	.0945	6.274
#3	1.804	.0078	.0390	2.109	-.0025	.0927	6.278

Zoom In Zoom Out

Sample Name: jc85722-43r Acquired: 4/18/2019 22:27:55 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100120.**	**5230.5**	**3681.8**	**7350.7**
Stddev	246.	49.4	3.2	7.7
%RSD	.24529	.94406	.08595	.10427
#1	100380.	5178.9	3682.2	7351.6
#2	99899.	5235.4	3684.7	7357.8
#3	100080.	5277.3	3678.5	7342.6

Zoom In Zoom Out

Sample Name: mp14303-b1 Acquired: 4/18/2019 22:33:10 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.016**	**1.988**	**1.967**	**1.965**	**1.944**	**1.941**	**1.961**	**1.954**
Stddev	.004	.004	.002	.001	.004	.004	.004	.002
%RSD	.1887	.2009	.0924	.0306	.1888	.1807	.1944	.0787
#1	2.016	1.990	1.969	1.966	1.944	1.944	1.962	1.954
#2	2.020	1.991	1.965	1.965	1.941	1.942	1.957	1.956
#3	2.012	1.984	1.968	1.965	1.948	1.937	1.964	1.953

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2563**	**1.934**	**1.952**	**2.007**	**2.043**	**1.969**	**1.985**	**2.061**
Stddev	.0007	.003	.003	.002	.002	.002	.002	.004
%RSD	.2717	.1308	.1417	.1149	.1007	.0965	.1226	.1696
#1	.2567	1.936	1.953	2.005	2.042	1.971	1.984	2.065
#2	.2567	1.931	1.949	2.008	2.046	1.967	1.984	2.060
#3	.2555	1.935	1.955	2.009	2.042	1.969	1.988	2.058

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.74**	**24.86**	**25.08**	**23.92**	**24.43**	**24.93**	**2.012**	**2.062**
Stddev	.08	.09	.06	.24	.08	.08	.003	.003
%RSD	.3173	.3741	.2468	.9831	.3099	.3324	.1518	.1310
#1	24.68	24.79	25.07	23.76	24.39	24.94	2.011	2.065
#2	24.83	24.96	25.15	24.19	24.52	25.00	2.015	2.061
#3	24.70	24.81	25.02	23.81	24.38	24.84	2.010	2.059

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1713**	**2.058**	**2.027**	**1.969**	**1.958**	**1.976**	F **-.0933**	**.0018**
Stddev	.0004	.001	.004	.001	.003	.001	.0034	.0007
%RSD	.2239	.0278	.1915	.0344	.1394	.0568	3.626	41.46
#1	.1712	2.058	2.029	1.969	1.960	1.977	-.0949	.0013
#2	.1710	2.059	2.030	1.968	1.955	1.976	-.0894	.0026
#3	.1717	2.058	2.023	1.970	1.958	1.974	-.0956	.0014

Zoom In Zoom Out

Sample Name: mp14303-b1 Acquired: 4/18/2019 22:33:10 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0015**	**1.965**
Stddev	.0010	.002
%RSD	63.79	.0926
#1	.0016	1.965
#2	.0024	1.963
#3	.0005	1.966

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**97980.**	**5136.0**	**3604.4**	**7660.6**
Stddev	288.	27.4	4.3	8.1
%RSD	.29385	.53408	.11890	.10539
#1	98029.	5149.3	3599.5	7651.7
#2	98240.	5104.4	3607.3	7662.8
#3	97671.	5154.2	3606.5	7667.4

Zoom In Zoom Out

Sample Name: mp14303-mb1conf Acquired: 4/18/2019 22:38:14 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**-.0001**	**-.0001**	**-.0001**	**.0003**	**.0001**	**-.0000**	**-.0002**	**-.0008**
Stddev	.0001	.0001	.0003	.0002	.0001	.0005	.0000	.0001	.0003
%RSD	27.71	73.09	309.1	233.9	46.60	361.8	214.9	51.28	40.34
#1	-.0003	-.0001	-.0001	-.0002	.0001	-.0003	.0000	-.0002	-.0006
#2	-.0006	-.0001	-.0004	.0001	.0003	.0000	-.0001	-.0001	-.0011
#3	-.0006	-.0002	.0002	-.0000	.0004	.0007	-.0000	-.0003	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0525**	**-.0006**	**-.0000**	**-.0014**	**-.0006**	**.0013**	**.0042**	**.0162**
Stddev	.0004	.0001	.0018	.0003	.0004	.0010	.0006	.0043	.0033
%RSD	268.6	.2554	298.0	2770.	28.19	183.6	42.26	103.3	20.46
#1	.0005	.0525	-.0026	.0002	-.0018	.0005	.0015	.0081	.0124
#2	-.0000	.0523	.0006	-.0003	-.0013	-.0015	.0017	-.0005	.0179
#3	-.0001	.0526	.0003	.0000	-.0010	-.0007	.0007	.0050	.0183

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0024**	**.0061**	**.0118**	**.0219**	**.0017**	**.0003**	**.0061**	**.0000**	**.0000**
Stddev	.0019	.0101	.0322	.0030	.0003	.0001	.0005	.0004	.0000
%RSD	78.78	163.9	272.7	13.55	17.69	41.87	8.827	10030.	64.33
#1	.0044	-.0013	-.0065	.0235	.0020	.0003	.0067	.0001	.0001
#2	.0023	.0176	.0491	.0238	.0018	.0005	.0060	-.0004	.0000
#3	.0005	.0021	-.0071	.0185	.0014	.0002	.0057	.0004	.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0052**	**.0003**	**.0074**	**-.0011**	**.0011**	**.0079**
Stddev	.0003	.0008	.0001	.0021	.0006	.0019	.0005
%RSD	3577.	15.58	35.83	28.58	57.67	173.2	6.850
#1	.0002	.0060	.0002	.0078	-.0004	.0016	.0082
#2	-.0003	.0053	.0003	.0093	-.0013	.0028	.0083
#3	.0001	.0044	.0004	.0051	-.0017	-.0010	.0073

Zoom In Zoom Out

Sample Name: mp14303-mb1conf Acquired: 4/18/2019 22:38:14 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100780.**	**5238.5**	**3676.8**	**8321.0**
Stddev	565.	164.5	1.8	.9
%RSD	.56102	3.1400	.05021	.01100
#1	100160.	5111.6	3678.8	8320.0
#2	100890.	5179.4	3675.1	8321.2
#3	101270.	5424.3	3676.6	8321.8

Zoom In Zoom Out

Sample Name: mp14303-s1 Acquired: 4/18/2019 22:43:43 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.954**	**1.903**	**1.907**	**1.899**	**1.859**	**1.890**	**1.880**	**1.891**	**.2516**
Stddev	.001	.005	.003	.003	.006	.002	.004	.004	.0004
%RSD	.0502	.2396	.1674	.1629	.3097	.1184	.1994	.1896	.1556
#1	1.955	1.908	1.910	1.901	1.856	1.890	1.879	1.894	.2514
#2	1.954	1.899	1.907	1.900	1.865	1.892	1.884	1.891	.2520
#3	1.953	1.901	1.903	1.896	1.855	1.887	1.877	1.887	.2513

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.860**	**1.865**	**1.958**	**1.959**	**1.897**	**1.927**	**2.010**	**23.77**	**38.97**
Stddev	.001	.002	.003	.006	.002	.001	.003	.02	.12
%RSD	.0523	.1118	.1568	.2928	.1138	.0426	.1537	.0834	.3196
#1	1.860	1.867	1.959	1.958	1.899	1.927	2.012	23.75	39.08
#2	1.861	1.864	1.961	1.965	1.897	1.926	2.011	23.76	38.84
#3	1.859	1.863	1.955	1.954	1.895	1.927	2.006	23.79	39.00

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.90**	**27.47**	**28.45**	**63.45**	**1.961**	**1.976**	**2.540**	**1.967**	**2.015**
Stddev	.03	.15	.07	.09	.002	.003	.002	.004	.004
%RSD	.1433	.5288	.2490	.1389	.1107	.1254	.0680	.2119	.2217
#1	23.94	27.63	28.53	63.55	1.964	1.979	2.540	1.970	2.020
#2	23.87	27.41	28.39	63.38	1.960	1.975	2.542	1.969	2.013
#3	23.90	27.36	28.43	63.43	1.960	1.974	2.539	1.962	2.012

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.901**	**1.930**	**1.908**	**18.23**	**.0013**	**.0006**	**2.283**
Stddev	.002	.003	.000	.01	.0006	.0012	.001
%RSD	.0979	.1283	.0051	.0330	50.45	190.7	.0323
#1	1.902	1.927	1.908	18.24	.0008	.0004	2.282
#2	1.903	1.931	1.908	18.23	.0020	.0019	2.284
#3	1.900	1.932	1.908	18.23	.0010	-.0004	2.283

Zoom In Zoom Out

Sample Name: mp14303-s1 Acquired: 4/18/2019 22:43:43 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96858.**	**5132.4**	**3569.0**	**7476.0**
Stddev	213.	16.8	2.9	10.1
%RSD	.21986	.32799	.08231	.13463
#1	96911.	5120.1	3566.8	7472.8
#2	96624.	5151.5	3567.9	7468.0
#3	97040.	5125.5	3572.4	7487.3

Zoom In Zoom Out

Sample Name: mp14303-s2 Acquired: 4/18/2019 22:48:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.889**	**1.842**	**1.849**	**1.841**	**1.799**	**1.828**	**1.818**	**1.831**	**.2428**
Stddev	.002	.000	.001	.000	.003	.002	.002	.002	.0006
%RSD	.0810	.0147	.0684	.0171	.1875	.1044	.1264	.1095	.2363
#1	1.889	1.842	1.850	1.840	1.802	1.830	1.819	1.833	.2428
#2	1.887	1.842	1.848	1.841	1.795	1.827	1.816	1.829	.2423
#3	1.890	1.842	1.850	1.841	1.800	1.827	1.820	1.831	.2435

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.798**	**1.814**	**1.902**	**1.900**	**1.841**	**1.872**	**1.955**	**23.08**	**38.07**
Stddev	.004	.005	.002	.005	.002	.002	.001	.02	.10
%RSD	.1932	.2981	.0974	.2804	.1283	.1172	.0328	.0913	.2732
#1	1.802	1.817	1.900	1.904	1.841	1.870	1.955	23.08	37.98
#2	1.797	1.808	1.903	1.894	1.838	1.874	1.954	23.07	38.04
#3	1.796	1.818	1.903	1.902	1.843	1.871	1.954	23.11	38.18

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.29**	**26.73**	**27.71**	**61.62**	**1.910**	**1.920**	**2.433**	**1.911**	**1.948**
Stddev	.01	.18	.06	.07	.002	.000	.003	.005	.001
%RSD	.0446	.6617	.2109	.1130	.0807	.0207	.1071	.2425	.0314
#1	23.28	26.54	27.65	61.60	1.908	1.920	2.435	1.912	1.947
#2	23.30	26.76	27.77	61.57	1.911	1.920	2.430	1.905	1.948
#3	23.28	26.89	27.72	61.70	1.911	1.920	2.433	1.915	1.948

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.843**	**1.877**	**1.850**	**17.84**	**.0012**	**.0036**	**2.218**
Stddev	.001	.005	.002	.02	.0005	.0012	.004
%RSD	.0605	.2922	.1233	.0989	41.07	34.13	.1778
#1	1.845	1.876	1.852	17.82	.0013	.0032	2.219
#2	1.843	1.872	1.849	17.84	.0015	.0050	2.213
#3	1.843	1.883	1.848	17.86	.0006	.0026	2.220

Zoom In Zoom Out

Sample Name: mp14303-s2 Acquired: 4/18/2019 22:48:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**97118.**	**5116.3**	**3565.3**	**7476.4**
Stddev	198.	16.4	4.0	2.1
%RSD	.20415	.32042	.11228	.02838
#1	97215.	5133.6	3567.0	7474.7
#2	97248.	5114.0	3568.2	7478.8
#3	96890.	5101.1	3560.7	7475.8

Zoom In Zoom Out

Sample Name: jc86497-1 Acquired: 4/18/2019 22:53:47 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0236**	**-.0001**	**-.0000**	**.0002**	**.0011**	**.0243**	**.0021**	**.0007**	**-.0005**
Stddev	.0008	.0001	.0001	.0002	.0005	.0003	.0000	.0002	.0003
%RSD	3.391	63.67	1726.	97.25	41.81	1.282	1.763	34.34	66.16
#1	.0240	-.0000	-.0001	.0003	.0016	.0240	.0021	.0006	-.0008
#2	.0227	-.0001	.0000	.0002	.0010	.0246	.0021	.0005	-.0005
#3	.0240	-.0002	.0001	-.0000	.0007	.0242	.0021	.0010	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0099**	**.0001**	**-.0006**	**-.0005**	**-.0015**	**.0006**	**.0308**	**15.05**
Stddev	.0002	.0001	.0002	.0010	.0003	.0012	.0008	.0056	.57
%RSD	90.66	.5654	147.8	150.9	65.00	76.57	140.2	18.13	3.781
#1	-.0000	.0099	.0002	-.0017	-.0004	-.0003	.0003	.0367	15.26
#2	.0003	.0099	.0001	.0002	-.0002	-.0018	.0014	.0256	14.40
#3	.0002	.0100	-.0001	-.0004	-.0007	-.0026	-.0001	.0300	15.48

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0455**	**4.610**	**4.738**	**38.49**	**.0217**	**.0023**	**2.326**	**-.0003**	**.0752**
Stddev	.0066	.216	.175	1.43	.0007	.0001	.004	.0003	.0029
%RSD	14.50	4.690	3.687	3.726	3.444	3.732	.1637	90.60	3.892
#1	.0380	4.734	4.796	38.98	.0226	.0023	2.330	-.0006	.0761
#2	.0480	4.361	4.541	36.88	.0214	.0023	2.325	-.0000	.0719
#3	.0505	4.736	4.876	39.61	.0212	.0022	2.323	-.0003	.0775

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0038**	**.0001**	**18.14**	**-.0003**	**.0025**	**.3774**
Stddev	.0002	.0011	.0000	.04	.0009	.0007	.0018
%RSD	64.48	27.92	69.91	.2123	348.9	27.46	.4785
#1	-.0004	.0045	.0000	18.16	.0003	.0017	.3763
#2	-.0006	.0026	.0001	18.16	-.0014	.0029	.3795
#3	-.0001	.0043	.0001	18.09	.0002	.0028	.3763

Zoom In Zoom Out

Sample Name: jc86497-1 Acquired: 4/18/2019 22:53:47 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98987.**	**5194.6**	**3602.7**	**7861.9**
Stddev	113.	166.9	2.7	6.6
%RSD	.11459	3.2123	.07404	.08438
#1	99117.	5116.6	3599.9	7860.7
#2	98908.	5386.2	3605.2	7856.0
#3	98936.	5081.0	3603.0	7869.1

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 22:59:14 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.015**	**1.986**	**1.994**	**1.995**	**1.966**	**1.949**	**1.971**	**1.989**	**.2435**
Stddev	.012	.014	.001	.002	.003	.002	.002	.000	.0004
%RSD	.5812	.7089	.0634	.0784	.1585	.0920	.0937	.0196	.1512
#1	2.028	2.002	1.993	1.994	1.965	1.951	1.971	1.989	.2438
#2	2.007	1.979	1.995	1.996	1.963	1.947	1.969	1.988	.2436
#3	2.010	1.976	1.993	1.996	1.970	1.948	1.973	1.989	.2431
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.941**	**1.968**	**1.988**	**2.047**	**1.999**	**2.015**	**2.026**	**39.66**	**39.79**
Stddev	.001	.001	.003	.004	.001	.002	.003	.15	.11
%RSD	.0567	.0734	.1258	.1785	.0334	.0845	.1695	.3733	.2878
#1	1.942	1.969	1.986	2.043	1.999	2.017	2.023	39.75	39.92
#2	1.940	1.969	1.991	2.050	1.999	2.014	2.030	39.49	39.72
#3	1.942	1.966	1.987	2.048	1.998	2.014	2.025	39.73	39.73
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.63**	**38.37**	**39.35**	**40.28**	**2.064**	**2.010**	**5.180**	**2.002**	**2.033**
Stddev	.22	.16	.20	.22	.001	.002	.007	.003	.012
%RSD	.5537	.4238	.5049	.5352	.0260	.0840	.1382	.1233	.6120
#1	39.86	38.56	39.58	40.52	2.064	2.011	5.186	2.005	2.047
#2	39.59	38.31	39.22	40.10	2.064	2.008	5.181	2.000	2.028
#3	39.43	38.25	39.25	40.23	2.063	2.010	5.172	2.001	2.024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/18/2019 22:59:14 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.927**	**1.972**	**1.940**	**2.034**	**2.079**	**1.970**	**1.998**
Stddev	.001	.003	.001	.006	.004	.011	.002
%RSD	.0391	.1252	.0740	.2878	.2186	.5599	.0818
#1	1.927	1.969	1.942	2.028	2.082	1.982	2.000
#2	1.926	1.974	1.939	2.037	2.074	1.960	1.997
#3	1.928	1.973	1.939	2.038	2.082	1.968	1.998
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96673.**	**5091.3**	**3573.0**	**7463.1**
Stddev	157.	26.5	1.3	1.9
%RSD	.16230	.52139	.03536	.02540
#1	96756.	5075.6	3571.7	7464.9
#2	96771.	5076.4	3574.3	7461.2
#3	96492.	5122.0	3573.0	7463.1

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 23:04:15 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0001**	**-.0001**	**.0001**	**.0001**	**-.0003**	**-.0001**	**.0001**	**-.0011**
Stddev	.0001	.0001	.0001	.0001	.0003	.0003	.0001	.0004	.0004
%RSD	24.62	224.3	115.9	45.03	388.2	102.7	96.44	256.4	37.40
#1	-.0004	-.0000	.0000	.0002	-.0003	-.0006	-.0001	-.0000	-.0010
#2	-.0004	-.0002	-.0001	.0001	.0004	.0001	-.0000	.0005	-.0016
#3	-.0002	.0000	-.0003	.0001	.0001	-.0005	-.0002	-.0001	-.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0001**	**.0004**	**.0002**	**-.0014**	**-.0007**	**.0005**	**-.0026**	**.0005**
Stddev	.0002	.0000	.0013	.0005	.0005	.0010	.0013	.0118	.0023
%RSD	104.6	37.96	280.7	300.8	33.57	130.6	263.6	455.1	481.2
#1	.0001	-.0001	.0014	-.0001	-.0014	-.0018	.0014	-.0054	.0001
#2	.0003	-.0002	-.0010	.0008	-.0018	-.0004	-.0010	.0104	.0030
#3	.0000	-.0001	.0010	-.0001	-.0009	.0000	.0012	-.0128	-.0016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0017**	**-.0099**	**.0612**	**.0301**	**.0020**	**.0003**	**.0016**	**-.0003**	**-.0001**
Stddev	.0043	.0673	.0122	.0118	.0003	.0001	.0008	.0008	.0001
%RSD	248.0	681.1	19.88	39.39	16.15	28.89	51.10	258.3	185.2
#1	.0017	.0155	.0641	.0363	.0016	.0002	.0011	-.0011	.0000
#2	-.0026	.0410	.0716	.0164	.0022	.0003	.0026	.0006	-.0002
#3	.0060	-.0862	.0478	.0375	.0022	.0004	.0012	-.0005	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/18/2019 23:04:15 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0008**	**.0000**	**.0041**	**-.0003**	**.0016**	**.0064**
Stddev	.0003	.0009	.0001	.0026	.0008	.0023	.0003
%RSD	74.01	118.3	841.9	64.95	299.2	145.3	5.343
#1	-.0001	.0017	.0000	.0026	.0006	.0038	.0068
#2	-.0004	.0008	-.0001	.0071	-.0011	.0015	.0063
#3	-.0006	-.0001	.0001	.0024	-.0003	-.0007	.0061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101350.**	**5154.7**	**3682.1**	**8318.2**
Stddev	104.	223.5	11.0	11.8
%RSD	.10310	4.3365	.29896	.14167
#1	101250.	5096.6	3685.4	8322.0
#2	101340.	5401.5	3691.0	8327.7
#3	101460.	4965.9	3669.8	8305.0

Zoom In Zoom Out

Sample Name: mp14303-sd1 Acquired: 4/18/2019 23:09:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0232**	**-.0001**	**-.0006**	**.0009**	**.0013**	**.0253**	**.0019**	**.0016**	**-.0043**
Stddev	.0013	.0005	.0001	.0006	.0018	.0014	.0003	.0030	.0014
%RSD	5.439	499.3	16.71	67.21	132.6	5.397	14.35	188.5	32.70
#1	.0243	.0003	-.0005	.0014	.0028	.0260	.0017	.0011	-.0027
#2	.0236	.0001	-.0007	.0010	.0017	.0237	.0019	-.0011	-.0050
#3	.0219	-.0007	-.0006	.0002	-.0006	.0261	.0022	.0048	-.0053

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0148**	**.0032**	**-.0006**	**-.0020**	**-.0078**	**-.0000**	**.0461**	**15.68**
Stddev	.0011	.0005	.0067	.0021	.0033	.0050	.0025	.0425	.09
%RSD	155.7	3.367	211.8	332.2	163.0	63.78	125700.	92.10	.5865
#1	-.0003	.0152	.0088	-.0030	.0017	-.0024	-.0024	.0871	15.79
#2	.0005	.0150	.0049	.0001	-.0030	-.0088	.0025	.0490	15.63
#3	.0018	.0142	-.0042	.0011	-.0047	-.0123	-.0001	.0023	15.63

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0705**	**4.750**	**4.941**	**39.03**	**.0219**	**.0019**	**2.367**	**-.0021**	**.0761**
Stddev	.0212	.320	.157	.07	.0018	.0011	.004	.0016	.0002
%RSD	30.03	6.736	3.175	.1700	8.229	54.31	.1722	76.79	.2890
#1	.0490	4.813	5.072	39.04	.0205	.0031	2.362	-.0007	.0761
#2	.0710	5.033	4.767	39.09	.0239	.0010	2.371	-.0018	.0759
#3	.0913	4.403	4.983	38.96	.0212	.0017	2.367	-.0038	.0763

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**.0050**	**.0014**	**17.90**	**-.0059**	**.0163**	**.4036**
Stddev	.0004	.0014	.0003	.07	.0070	.0046	.0010
%RSD	17.01	29.01	19.68	.4161	119.5	28.05	.2529
#1	.0023	.0047	.0017	17.91	-.0084	.0112	.4026
#2	.0024	.0037	.0013	17.97	.0021	.0202	.4036
#3	.0031	.0065	.0012	17.82	-.0113	.0175	.4047

Zoom In Zoom Out

Sample Name: mp14303-sd1 Acquired: 4/18/2019 23:09:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100270.**	**5092.0**	**3654.6**	**8189.7**
Stddev	233.	20.1	3.3	14.0
%RSD	.23197	.39416	.09107	.17121
#1	100490.	5078.2	3652.3	8174.7
#2	100030.	5082.8	3653.0	8191.8
#3	100290.	5115.1	3658.4	8202.5

Zoom In Zoom Out

Sample Name: jc86397-7 Acquired: 4/18/2019 23:15:12 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0412**	**.0001**	**.0000**	**.0021**	**.0126**	**.0162**	**.0427**	**.0056**	**-.0005**
Stddev	.0002	.0000	.0001	.0003	.0002	.0002	.0001	.0004	.0002
%RSD	.5220	47.18	576.8	16.18	1.263	1.390	.2323	6.394	39.62
#1	.0411	.0002	-.0001	.0017	.0127	.0159	.0428	.0060	-.0004
#2	.0414	.0001	.0002	.0024	.0124	.0164	.0427	.0053	-.0007
#3	.0410	.0001	-.0000	.0021	.0126	.0161	.0426	.0054	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0153**	**.0231**	**.0054**	**-.0009**	**.0292**	**-.0012**	**-.0002**	**5.664**	**.3169**
Stddev	.0002	.0001	.0006	.0014	.0008	.0005	.0005	.016	.0019
%RSD	1.377	.2978	11.35	154.7	2.873	37.49	195.0	.2819	.6140
#1	.0151	.0231	.0056	-.0004	.0300	-.0010	-.0005	5.654	.3187
#2	.0155	.0232	.0047	-.0024	.0284	-.0010	.0003	5.683	.3148
#3	.0153	.0231	.0059	.0002	.0292	-.0018	-.0005	5.656	.3171

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.11**	**1.526**	**2.339**	**4.270**	**.0337**	**.0011**	**11.93**	**.0025**	**.0108**
Stddev	.06	.003	.009	.012	.0006	.0001	.03	.0002	.0000
%RSD	.5256	.2245	.4018	.2730	1.751	8.742	.2744	7.302	.1104
#1	11.18	1.522	2.329	4.283	.0339	.0012	11.94	.0023	.0108
#2	11.08	1.527	2.347	4.262	.0342	.0012	11.95	.0026	.0108
#3	11.08	1.529	2.342	4.265	.0331	.0010	11.89	.0027	.0108

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1123**	**.0117**	**.0017**	**1.695**	**-.0015**	**.0077**	**.2329**
Stddev	.0004	.0005	.0000	.008	.0007	.0011	.0013
%RSD	.3295	4.376	1.870	.4750	48.26	14.84	.5629
#1	.1122	.0118	.0017	1.696	-.0014	.0064	.2339
#2	.1120	.0122	.0017	1.701	-.0009	.0084	.2334
#3	.1127	.0112	.0016	1.686	-.0023	.0082	.2314

Zoom In Zoom Out

Sample Name: jc86397-7 Acquired: 4/18/2019 23:15:12 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101520.**	**5170.3**	**3698.1**	**8170.6**
Stddev	126.	22.0	3.3	5.8
%RSD	.12392	.42590	.08834	.07090
#1	101380.	5146.3	3695.3	8165.8
#2	101610.	5175.0	3697.3	8169.0
#3	101570.	5189.5	3701.7	8177.0

Zoom In Zoom Out

Sample Name: jc86397-8 Acquired: 4/18/2019 23:20:36 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0704**	**.0001**	**-.0000**	**-.0005**	**.0011**	**.0007**	**.9848**	**.0004**	**.0012**
Stddev	.0005	.0001	.0001	.0003	.0002	.0001	.0098	.0002	.0004
%RSD	.6437	139.5	1373.	53.01	19.74	16.85	.9936	42.20	36.88
#1	.0708	-.0000	-.0001	-.0009	.0011	.0008	.9908	.0005	.0009
#2	.0705	.0001	.0001	-.0004	.0012	.0007	.9901	.0004	.0009
#3	.0699	.0002	.0000	-.0004	.0008	.0005	.9735	.0002	.0017

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0019**	**.0003**	**.0043**	**-.0010**	**-.0017**	**-.0018**	**-.0004**	**.0083**	**42.64**
Stddev	.0003	.0001	.0009	.0008	.0002	.0002	.0009	.0023	.03
%RSD	13.38	31.64	21.13	76.76	11.28	13.67	252.1	27.07	.0632
#1	.0021	.0003	.0051	-.0001	-.0018	-.0018	-.0009	.0057	42.63
#2	.0020	.0002	.0033	-.0017	-.0015	-.0020	-.0009	.0093	42.67
#3	.0016	.0004	.0045	-.0013	-.0018	-.0015	.0007	.0099	42.62

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**47.96**	**15.01**	**14.15**	**131.2**	**.5274**	**.0030**	**12.45**	**-.0016**	**.2328**
Stddev	.05	.04	.03	.1	.0094	.0002	.22	.0000	.0008
%RSD	.0944	.2672	.2128	.0636	1.775	7.744	1.736	3.097	.3267
#1	47.98	15.03	14.17	131.3	.5208	.0028	12.31	-.0016	.2335
#2	47.99	14.97	14.17	131.3	.5233	.0031	12.33	-.0016	.2328
#3	47.91	15.03	14.12	131.1	.5381	.0032	12.70	-.0016	.2320

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**.0140**	**-.0008**	**12.56**	**.0005**	**.0191**	**.3431**
Stddev	.0001	.0002	.0002	.22	.0013	.0021	.0069
%RSD	14.14	1.379	23.04	1.785	240.4	11.15	2.007
#1	-.0006	.0141	-.0006	12.45	-.0004	.0187	.3398
#2	-.0008	.0142	-.0009	12.41	-.0001	.0172	.3385
#3	-.0007	.0138	-.0010	12.82	.0021	.0214	.3510

Zoom In Zoom Out

Sample Name: jc86397-8 Acquired: 4/18/2019 23:20:36 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96072.**	**5066.7**	**3460.8**	**7339.1**
Stddev	740.	18.3	49.1	88.5
%RSD	.77031	.36213	1.4175	1.2061
#1	95507.	5048.3	3491.7	7390.4
#2	95799.	5066.8	3486.4	7390.0
#3	96909.	5085.0	3404.2	7236.9

Zoom In Zoom Out

Sample Name: jc86397-9 Acquired: 4/18/2019 23:25:57 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0284**	**-.0001**	**-.0001**	**-.0003**	**.0060**	**.0006**	**.3171**	**.0031**	**.0006**
Stddev	.0002	.0000	.0002	.0001	.0002	.0001	.0170	.0001	.0006
%RSD	.6761	34.04	230.1	32.12	3.900	18.85	5.373	1.635	98.79
#1	.0286	-.0001	-.0001	-.0002	.0062	.0007	.3230	.0030	.0008
#2	.0284	-.0000	-.0004	-.0004	.0058	.0007	.2979	.0031	.0011
#3	.0282	-.0001	.0001	-.0003	.0059	.0005	.3305	.0031	-.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0015**	**.0020**	**.0068**	**-.0008**	**-.0020**	**-.0011**	**-.0007**	**.0569**	**22.00**
Stddev	.0002	.0001	.0002	.0004	.0003	.0006	.0004	.0081	.07
%RSD	14.17	4.286	2.713	44.23	15.15	56.22	60.34	14.30	.3379
#1	.0017	.0019	.0067	-.0007	-.0022	-.0006	-.0011	.0559	22.08
#2	.0014	.0021	.0070	-.0012	-.0022	-.0018	-.0008	.0655	21.95
#3	.0013	.0019	.0067	-.0005	-.0017	-.0010	-.0003	.0494	21.95

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**41.25**	**8.972**	**9.551**	**64.59**	**.2647**	**.0039**	**11.02**	**-.0016**	**.1148**
Stddev	.19	.049	.028	.26	.0006	.0001	.01	.0001	.0004
%RSD	.4484	.5431	.2951	.4080	.2119	1.778	.0656	6.125	.3885
#1	41.44	9.014	9.581	64.89	.2642	.0039	11.02	-.0015	.1153
#2	41.25	8.919	9.525	64.41	.2645	.0038	11.03	-.0017	.1147
#3	41.07	8.983	9.547	64.47	.2653	.0039	11.02	-.0017	.1144

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0120**	**-.0005**	**3.045**	**.0002**	**.0146**	**1.271**
Stddev	.0002	.0002	.0001	.004	.0006	.0008	.001
%RSD	27.91	1.884	20.12	.1449	230.6	5.761	.0608
#1	.0005	.0120	-.0005	3.040	-.0004	.0148	1.271
#2	.0007	.0117	-.0004	3.048	.0005	.0153	1.270
#3	.0008	.0122	-.0005	3.048	.0007	.0137	1.272

Zoom In Zoom Out

Sample Name: jc86397-9 Acquired: 4/18/2019 23:25:57 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99390.**	**5077.6**	**3563.8**	**7665.3**
Stddev	4495.	26.8	5.2	9.7
%RSD	4.5221	.52687	.14705	.12626
#1	97979.	5050.3	3567.8	7675.2
#2	104420.	5103.8	3557.9	7655.8
#3	95770.	5078.8	3565.7	7664.8

Zoom In Zoom Out

Sample Name: jc86412-1 Acquired: 4/18/2019 23:31:19 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1593**	**.0002**	**.0002**	**.0051**	**.0186**	**.0442**	**.3590**	**.0147**	**.0004**
Stddev	.0003	.0001	.0000	.0003	.0002	.0003	.0010	.0001	.0003
%RSD	.1904	26.85	24.54	5.417	1.225	.6266	.2745	.8375	92.21
#1	.1590	.0003	.0001	.0049	.0188	.0445	.3601	.0147	.0001
#2	.1596	.0002	.0002	.0052	.0184	.0440	.3583	.0149	.0007
#3	.1593	.0002	.0002	.0054	.0187	.0441	.3586	.0146	.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0269**	**.0746**	**.0064**	**-.0001**	**.0094**	**-.0016**	**-.0001**	**12.62**	**10.46**
Stddev	.0000	.0001	.0011	.0011	.0000	.0014	.0012	.03	.05
%RSD	.1512	.1585	17.17	1886.	.0052	88.97	1223.	.2417	.5219
#1	.0269	.0747	.0062	-.0009	.0094	-.0008	-.0015	12.63	10.48
#2	.0269	.0746	.0076	.0012	.0094	-.0007	.0008	12.64	10.51
#3	.0268	.0745	.0055	-.0005	.0094	-.0032	.0004	12.58	10.40

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.19**	**5.015**	**10.94**	**3.641**	**.0163**	**.0016**	**14.27**	**-.0010**	**.0573**
Stddev	.02	.037	.04	.007	.0002	.0002	.02	.0003	.0001
%RSD	.1857	.7316	.3346	.2073	1.306	14.77	.1157	28.80	.1904
#1	12.21	5.057	10.95	3.648	.0161	.0018	14.29	-.0007	.0574
#2	12.19	4.990	10.98	3.642	.0165	.0013	14.28	-.0009	.0572
#3	12.16	4.998	10.90	3.633	.0163	.0017	14.25	-.0013	.0572

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6348**	**.0147**	**-.0002**	**2.830**	**-.0028**	**.0082**	**1.830**
Stddev	.0007	.0008	.0001	.007	.0011	.0002	.003
%RSD	.1087	5.368	68.70	.2349	37.63	2.387	.1675
#1	.6354	.0155	-.0000	2.830	-.0017	.0080	1.831
#2	.6340	.0139	-.0002	2.837	-.0029	.0081	1.833
#3	.6349	.0148	-.0003	2.824	-.0038	.0084	1.827

Zoom In Zoom Out

Sample Name: jc86412-1 Acquired: 4/18/2019 23:31:19 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101080.**	**5163.9**	**3679.6**	**7998.9**
Stddev	226.	10.7	5.0	12.0
%RSD	.22314	.20674	.13654	.15018
#1	100830.	5156.1	3674.3	7986.5
#2	101270.	5159.5	3680.3	8010.5
#3	101140.	5176.0	3684.2	7999.6

Zoom In Zoom Out

Sample Name: jc86426-1 Acquired: 4/18/2019 23:36:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0546**	**-.0001**	**.0001**	**.0012**	**.0006**	**.0011**	**3.358**	**.0017**
Stddev	.0005	.0001	.0002	.0003	.0006	.0002	.004	.0002
%RSD	.9298	90.15	383.6	25.77	112.1	14.54	.1267	13.07
#1	.0552	.0000	-.0001	.0015	.0005	.0013	3.360	.0019
#2	.0542	-.0002	.0003	.0009	.0012	.0011	3.361	.0017
#3	.0544	-.0002	.0000	.0012	-.0000	.0010	3.353	.0015

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0030**	**.0018**	**-.0004**	**-.0013**	**-.0019**	**-.0010**	**-.0005**
Stddev	.0002	.0001	.0002	.0005	.0002	.0004	.0024	.0003
%RSD	38.54	2.186	8.990	131.2	14.76	20.68	245.8	63.50
#1	.0004	.0031	.0018	.0001	-.0015	-.0015	.0002	-.0002
#2	.0006	.0030	.0019	-.0009	-.0013	-.0021	-.0038	-.0009
#3	.0003	.0031	.0016	-.0003	-.0011	-.0022	.0006	-.0005

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0047**	**128.4**	**.0190**	**42.39**	**5.196**	W **249.1**	**.0468**	**.0001**
Stddev	.0162	.5	.0107	.38	.034	.8	.0008	.0000
%RSD	341.4	.4122	56.69	.8999	.6440	.3220	1.805	23.94
#1	.0231	128.6	.0142	42.78	5.214	249.8	.0472	.0001
#2	-.0017	128.7	.0114	42.36	5.217	249.3	.0458	.0001
#3	-.0073	127.8	.0313	42.02	5.158	248.2	.0473	.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.440**	**-.0015**	**.5992**	**-.0009**	**.0098**	**-.0006**	**19.40**	**-.0008**
Stddev	.087	.0008	.0020	.0004	.0011	.0002	.22	.0010
%RSD	1.175	51.02	.3301	49.48	10.77	25.38	1.145	128.6
#1	7.541	-.0024	.6010	-.0013	.0102	-.0005	19.65	-.0010
#2	7.387	-.0013	.5995	-.0005	.0107	-.0008	19.31	.0003
#3	7.391	-.0009	.5971	-.0009	.0087	-.0006	19.23	-.0017

Zoom In Zoom Out

Sample Name: jc86426-1 Acquired: 4/18/2019 23:36:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0155**	**.0203**
Stddev	.0015	.0003
%RSD	9.533	1.624
#1	.0153	.0202
#2	.0141	.0207
#3	.0171	.0200

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**92194.**	**4971.1**	**3330.3**	**6952.8**
Stddev	209.	32.4	28.9	51.1
%RSD	.22647	.65222	.86817	.73499
#1	92018.	4981.1	3297.3	6894.2
#2	92140.	4934.8	3351.1	6988.4
#3	92424.	4997.3	3342.4	6975.8

Zoom In Zoom Out

Sample Name: jc86442-5 Acquired: 4/18/2019 23:42:02 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6934**	**-.0000**	**.0002**	**.0002**	**.0025**	**.0058**	**4.520**	**.0020**	**.0015**
Stddev	.0084	.0001	.0001	.0002	.0008	.0002	.010	.0003	.0005
%RSD	1.218	138.2	78.54	104.6	31.53	4.099	.2115	14.12	35.12
#1	.6838	.0000	.0003	-.0000	.0017	.0059	4.517	.0023	.0009
#2	.6996	-.0000	.0002	.0003	.0033	.0056	4.531	.0018	.0019
#3	.6968	-.0001	.0000	.0003	.0024	.0060	4.512	.0019	.0016

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0108**	**.0907**	**-.0003**	**-.0013**	**-.0029**	**-.0024**	**.0011**	**.0858**	F **297.6**
Stddev	.0003	.0001	.0006	.0006	.0004	.0036	.0005	.0362	3.9
%RSD	2.632	.0704	191.7	49.03	14.37	150.5	43.25	42.22	1.319
#1	.0109	.0907	-.0009	-.0006	-.0024	-.0065	.0005	.0738	293.2
#2	.0105	.0907	.0001	-.0017	-.0029	.0001	.0014	.0572	300.7
#3	.0110	.0906	-.0000	-.0015	-.0033	-.0008	.0013	.1266	298.8

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7237**	**38.55**	**10.61**	F **986.4**	**.3760**	**.0051**	**8.586**	**-.0017**	**1.740**
Stddev	.0180	.49	.20	15.9	.0013	.0000	.005	.0006	.022
%RSD	2.489	1.271	1.863	1.611	.3506	.2313	.0570	35.33	1.282
#1	.7055	38.00	10.38	979.6	.3750	.0051	8.589	-.0014	1.716
#2	.7415	38.96	10.73	1005.	.3775	.0051	8.580	-.0024	1.760
#3	.7239	38.67	10.71	975.0	.3754	.0051	8.589	-.0013	1.746

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**.0123**	**-.0007**	**18.47**	**.0010**	**.0199**	**.0855**
Stddev	.0002	.0007	.0003	.04	.0015	.0013	.0015
%RSD	7.612	6.102	36.29	.2433	147.8	6.511	1.717
#1	.0027	.0127	-.0006	18.49	.0027	.0184	.0855
#2	.0024	.0127	-.0010	18.42	-.0002	.0209	.0840
#3	.0027	.0114	-.0005	18.50	.0005	.0204	.0869

Zoom In Zoom Out

Sample Name: jc86442-5 Acquired: 4/18/2019 23:42:02 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**84875.**	**4837.1**	**3097.7**	**6163.9**
Stddev	175.	55.6	2.8	11.4
%RSD	.20580	1.1490	.09081	.18450
#1	84926.	4899.4	3097.8	6159.8
#2	84681.	4792.9	3094.8	6155.2
#3	85019.	4818.8	3100.4	6176.8

Zoom In Zoom Out

Sample Name: jc86443-1 Acquired: 4/18/2019 23:47:32 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1280**	**.0004**	**-.0000**	**.0068**	**.0015**	**.0680**	**.0164**	**.0086**	**-.0000**
Stddev	.0006	.0000	.0001	.0004	.0002	.0004	.0000	.0000	.0005
%RSD	.4850	8.218	178.4	5.245	16.59	.5915	.3002	.0126	31460.
#1	.1286	.0004	-.0001	.0065	.0012	.0681	.0164	.0086	-.0000
#2	.1280	.0004	.0001	.0072	.0017	.0675	.0163	.0085	-.0005
#3	.1274	.0004	-.0001	.0068	.0016	.0683	.0164	.0086	.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0176**	**.0003**	**-.0010**	**-.0003**	**-.0001**	**.0019**	**.0605**	**29.03**
Stddev	.0001	.0000	.0008	.0007	.0002	.0008	.0008	.0061	.03
%RSD	15.97	.0806	315.8	74.23	88.41	1098.	43.35	10.12	.0981
#1	.0006	.0176	-.0007	-.0015	-.0005	.0000	.0021	.0535	29.00
#2	.0006	.0176	.0009	-.0002	-.0002	-.0010	.0010	.0646	29.05
#3	.0008	.0175	.0006	-.0012	-.0001	.0007	.0025	.0635	29.04

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6427**	**8.752**	**11.03**	**116.0**	**.0720**	**.0016**	**4.561**	**-.0007**	**.3225**
Stddev	.0043	.040	.02	.0	.0005	.0002	.003	.0005	.0006
%RSD	.6700	.4621	.1621	.0281	.6441	12.54	.0708	73.26	.1825
#1	.6381	8.770	11.04	116.0	.0716	.0013	4.561	-.0013	.3232
#2	.6466	8.706	11.01	116.0	.0719	.0016	4.564	-.0006	.3222
#3	.6435	8.780	11.04	116.0	.0725	.0017	4.557	-.0003	.3222

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0057**	**-.0001**	**73.93**	**-.0018**	**.0119**	**5.188**
Stddev	.0004	.0007	.0000	.10	.0013	.0010	.010
%RSD	131.0	11.57	14.16	.1337	74.66	8.237	.1850
#1	-.0005	.0053	-.0001	74.04	-.0007	.0111	5.198
#2	-.0006	.0052	-.0002	73.89	-.0032	.0130	5.179
#3	.0002	.0064	-.0001	73.85	-.0013	.0118	5.187

Zoom In Zoom Out

Sample Name: jc86443-1 Acquired: 4/18/2019 23:47:32 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96454.**	**5099.2**	**3522.6**	**7456.0**
Stddev	185.	34.0	1.1	5.0
%RSD	.19175	.66728	.03070	.06752
#1	96246.	5121.9	3521.9	7461.8
#2	96519.	5115.7	3523.8	7453.8
#3	96598.	5060.1	3521.9	7452.5

Zoom In Zoom Out

Sample Name: jc86442-5 Acquired: 4/18/2019 23:52:56 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6973**	**-.0002**	**.0002**	**.0001**	**.0026**	**.0060**	**4.528**	**.0020**	**.0018**
Stddev	.0023	.0000	.0000	.0004	.0007	.0001	.003	.0001	.0004
%RSD	.3367	17.15	18.85	258.3	26.60	1.940	.0713	5.934	24.77
#1	.6998	-.0002	.0003	-.0002	.0024	.0059	4.526	.0020	.0022
#2	.6951	-.0002	.0003	.0005	.0021	.0061	4.527	.0019	.0013
#3	.6969	-.0002	.0002	.0001	.0034	.0060	4.532	.0021	.0019

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0108**	**.0910**	**-.0004**	**-.0000**	**-.0023**	**-.0017**	**.0006**	**.0804**	F **299.4**
Stddev	.0002	.0002	.0013	.0007	.0006	.0014	.0010	.0094	.3
%RSD	1.387	.2340	332.4	1957.	25.19	81.10	169.3	11.66	.1075
#1	.0107	.0908	.0008	.0007	-.0026	-.0025	.0001	.0909	299.2
#2	.0110	.0912	-.0002	-.0001	-.0016	-.0001	-.0000	.0727	299.2
#3	.0108	.0909	-.0018	-.0008	-.0026	-.0025	.0017	.0778	299.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7220**	**38.64**	**10.54**	F **973.0**	**.3758**	**.0051**	**8.629**	**-.0018**	**1.749**
Stddev	.0102	.18	.05	20.9	.0010	.0001	.007	.0006	.002
%RSD	1.410	.4634	.4319	2.152	.2646	1.306	.0870	31.66	.1145
#1	.7337	38.53	10.59	994.4	.3767	.0052	8.631	-.0020	1.751
#2	.7160	38.84	10.50	952.5	.3759	.0051	8.635	-.0012	1.749
#3	.7161	38.54	10.53	972.2	.3747	.0051	8.620	-.0023	1.747

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0029**	**.0142**	**-.0006**	**18.52**	**.0002**	**.0223**	**.0854**
Stddev	.0001	.0003	.0000	.07	.0013	.0017	.0005
%RSD	2.827	2.173	5.115	.3567	577.1	7.486	.6376
#1	.0029	.0139	-.0007	18.59	.0014	.0207	.0860
#2	.0028	.0141	-.0006	18.52	-.0012	.0221	.0849
#3	.0030	.0145	-.0006	18.46	.0005	.0240	.0853

Zoom In Zoom Out

Sample Name: jc86442-5 Acquired: 4/18/2019 23:52:56 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**84964.**	**4813.8**	**3094.4**	**6157.8**
Stddev	102.	23.5	2.5	4.5
%RSD	.12043	.48905	.08021	.07266
#1	84972.	4840.8	3096.4	6154.3
#2	85062.	4797.8	3091.6	6156.4
#3	84858.	4802.7	3095.2	6162.9

Zoom In Zoom Out

Sample Name: jc86015-21conf Acquired: 4/18/2019 23:58:28 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0450**	**.0001**	**.0086**	**.0009**	**.0120**	**.0317**	**.0498**	**.0038**	**-.0007**
Stddev	.0031	.0001	.0002	.0003	.0002	.0002	.0000	.0002	.0003
%RSD	6.809	138.5	1.803	32.39	1.936	.5883	.0454	6.129	38.60
#1	.0429	.0002	.0087	.0005	.0118	.0319	.0499	.0038	-.0004
#2	.0485	.0001	.0084	.0010	.0122	.0315	.0498	.0041	-.0010
#3	.0437	-.0000	.0087	.0010	.0120	.0318	.0498	.0036	-.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0033**	**.4410**	**.0004**	**-.0017**	**.0110**	**.0020**	**.0038**	**1.244**	**9.994**
Stddev	.0005	.0005	.0004	.0009	.0006	.0007	.0008	.084	.647
%RSD	13.77	.1067	112.0	54.63	5.730	37.02	20.14	6.724	6.474
#1	.0028	.4410	.0008	-.0015	.0117	.0013	.0045	1.165	9.423
#2	.0033	.4406	-.0001	-.0008	.0105	.0020	.0030	1.331	10.70
#3	.0037	.4415	.0004	-.0026	.0108	.0027	.0038	1.236	9.864

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.257**	**2.644**	**1.186**	**4.279**	**.0125**	**.0019**	**1.363**	**.0277**	**.0459**
Stddev	.233	.193	.053	.284	.0004	.0001	.004	.0006	.0032
%RSD	7.167	7.313	4.437	6.642	3.171	6.867	.2707	2.275	7.042
#1	3.054	2.493	1.155	4.048	.0124	.0021	1.366	.0283	.0430
#2	3.512	2.862	1.246	4.597	.0122	.0019	1.365	.0270	.0494
#3	3.205	2.576	1.156	4.194	.0130	.0018	1.359	.0277	.0454

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0716**	**.0016**	**.0039**	**1.894**	**-.0004**	**.0075**	**.3870**
Stddev	.0002	.0003	.0000	.011	.0009	.0008	.0017
%RSD	.3287	17.62	.7400	.5556	221.3	10.13	.4453
#1	.0718	.0013	.0039	1.899	-.0008	.0077	.3874
#2	.0714	.0015	.0039	1.900	-.0011	.0081	.3885
#3	.0716	.0019	.0039	1.882	.0006	.0066	.3851

Zoom In Zoom Out

Sample Name: jc86015-21conf Acquired: 4/18/2019 23:58:28 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101200.**	**5087.4**	**3649.7**	**8222.3**
Stddev	155.	267.3	8.5	11.6
%RSD	.15309	5.2544	.23171	.14137
#1	101200.	5343.8	3645.4	8219.0
#2	101350.	4810.4	3644.2	8212.6
#3	101040.	5108.0	3659.4	8235.2

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 0:03:53 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.003**	**1.970**	**1.989**	**1.991**	**1.954**	**1.943**	**1.965**	**1.981**	**.2431**
Stddev	.006	.007	.001	.003	.002	.005	.001	.003	.0002
%RSD	.3234	.3614	.0305	.1712	.1045	.2430	.0718	.1340	.0877
#1	2.002	1.975	1.989	1.995	1.957	1.941	1.966	1.983	.2433
#2	1.997	1.962	1.990	1.991	1.954	1.949	1.966	1.982	.2430
#3	2.009	1.974	1.990	1.988	1.953	1.940	1.963	1.978	.2429
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.936**	**1.962**	**1.987**	**2.047**	**1.992**	**2.011**	**2.021**	**39.52**	**39.65**
Stddev	.002	.001	.001	.005	.001	.004	.003	.09	.11
%RSD	.1156	.0400	.0611	.2409	.0619	.1880	.1422	.2283	.2897
#1	1.938	1.963	1.986	2.052	1.993	2.007	2.024	39.49	39.77
#2	1.937	1.963	1.988	2.046	1.991	2.014	2.019	39.44	39.54
#3	1.934	1.961	1.988	2.043	1.992	2.012	2.019	39.62	39.63
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.43**	**38.20**	**39.22**	**39.88**	**2.061**	**2.007**	**5.168**	**1.999**	**2.019**
Stddev	.07	.10	.13	.05	.002	.001	.003	.003	.006
%RSD	.1881	.2667	.3402	.1301	.0843	.0599	.0511	.1621	.3126
#1	39.48	38.30	39.35	39.89	2.063	2.008	5.171	1.996	2.021
#2	39.35	38.10	39.08	39.82	2.059	2.007	5.166	1.998	2.011
#3	39.47	38.19	39.22	39.92	2.061	2.005	5.167	2.003	2.023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 0:03:53 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.920**	**1.969**	**1.933**	**2.035**	**2.075**	**1.964**	**1.997**
Stddev	.002	.003	.002	.004	.001	.003	.003
%RSD	.1159	.1304	.1260	.1831	.0598	.1395	.1477
#1	1.919	1.966	1.934	2.037	2.076	1.962	1.994
#2	1.923	1.968	1.936	2.037	2.074	1.963	2.000
#3	1.920	1.971	1.931	2.031	2.076	1.967	1.996
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96581.**	**5027.6**	**3572.7**	**7468.9**
Stddev	94.	22.9	3.9	13.2
%RSD	.09720	.45612	.10794	.17658
#1	96502.	5002.8	3573.1	7461.1
#2	96685.	5048.0	3568.7	7461.4
#3	96556.	5032.1	3576.4	7484.1

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 0:08:55 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0000**	**-.0001**	**.0002**	**.0001**	**-.0004**	**-.0001**	**.0001**	**-.0008**
Stddev	.0005	.0001	.0002	.0002	.0001	.0001	.0000	.0002	.0007
%RSD	115.1	5769.	155.7	61.38	69.86	24.87	76.23	214.2	87.98
#1	-.0010	.0001	-.0000	.0004	.0002	-.0003	-.0001	-.0000	-.0016
#2	-.0002	-.0001	.0000	.0002	.0000	-.0005	-.0001	.0003	-.0002
#3	-.0001	-.0000	-.0003	.0001	.0001	-.0003	-.0000	-.0000	-.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0000**	**.0006**	**-.0003**	**-.0005**	**-.0015**	**.0001**	**.0060**	**.0037**
Stddev	.0003	.0000	.0009	.0008	.0003	.0003	.0006	.0122	.0040
%RSD	420.0	96.79	153.7	227.9	54.35	17.72	514.3	201.9	108.6
#1	.0001	-.0000	.0004	-.0009	-.0002	-.0013	-.0005	-.0080	.0014
#2	-.0002	-.0000	.0016	-.0007	-.0006	-.0015	.0000	.0127	.0083
#3	.0003	-.0001	-.0002	.0006	-.0008	-.0018	.0008	.0134	.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0020**	**-.0333**	**.0430**	**.1483**	**.0012**	**.0002**	**.0014**	**-.0007**	**.0001**
Stddev	.0020	.0026	.0432	.0061	.0002	.0001	.0003	.0004	.0001
%RSD	102.0	7.680	100.6	4.137	14.71	60.21	20.71	59.22	236.8
#1	-.0002	-.0315	.0927	.1553	.0013	.0002	.0017	-.0005	.0001
#2	-.0042	-.0322	.0218	.1436	.0013	.0001	.0011	-.0004	-.0001
#3	-.0016	-.0363	.0144	.1461	.0010	.0003	.0015	-.0011	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 0:08:55 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0003**	**.0000**	**.0056**	**.0002**	**.0039**	**.0074**
Stddev	.0002	.0005	.0001	.0015	.0009	.0006	.0009
%RSD	74.08	174.1	304.0	26.21	582.7	14.79	12.38
#1	-.0001	.0003	-.0000	.0071	-.0006	.0045	.0084
#2	-.0004	-.0002	.0001	.0041	-.0001	.0038	.0073
#3	-.0002	.0008	-.0000	.0055	.0012	.0033	.0066

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100510.**	**5054.8**	**3705.5**	**8361.4**
Stddev	2352.	22.8	50.0	106.9
%RSD	2.3401	.45066	1.3481	1.2787
#1	103130.	5071.7	3763.1	8484.8
#2	99797.	5028.9	3675.2	8302.5
#3	98595.	5063.7	3678.0	8296.9

Zoom In Zoom Out

Sample Name: jc85953-11conf Acquired: 4/19/2019 0:14:28 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0187**	**.0000**	**.0003**	**.0002**	**.0023**	**.0115**	**.0176**	**.0016**	**-.0014**
Stddev	.0001	.0002	.0001	.0002	.0001	.0001	.0001	.0003	.0002
%RSD	.3328	575.7	39.06	101.9	4.415	.5905	.3777	17.29	17.07
#1	.0187	-.0001	.0005	.0002	.0021	.0114	.0177	.0013	-.0017
#2	.0186	.0000	.0003	.0004	.0023	.0115	.0177	.0016	-.0014
#3	.0187	.0002	.0002	-.0000	.0023	.0115	.0176	.0019	-.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0762**	**-.0011**	**-.0015**	**-.0002**	**.0003**	**.0019**	**.1513**	**6.458**
Stddev	.0004	.0003	.0001	.0006	.0008	.0020	.0005	.0091	.002
%RSD	79.76	.4300	12.82	42.68	419.4	629.6	28.26	5.989	.0355
#1	.0009	.0763	-.0012	-.0011	-.0001	.0026	.0018	.1616	6.460
#2	.0003	.0758	-.0012	-.0011	.0006	-.0009	.0014	.1479	6.458
#3	.0002	.0764	-.0009	-.0022	-.0010	-.0007	.0024	.1445	6.456

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1419**	**1.409**	**.8678**	**3.819**	**.0366**	**.0010**	**1.264**	**.0248**	**.0280**
Stddev	.0086	.036	.0057	.023	.0001	.0002	.003	.0003	.0001
%RSD	6.038	2.579	.6595	.6082	.3162	19.68	.2138	1.197	.3884
#1	.1518	1.422	.8617	3.846	.0364	.0008	1.266	.0245	.0280
#2	.1371	1.437	.8730	3.808	.0366	.0011	1.265	.0249	.0282
#3	.1369	1.368	.8688	3.804	.0367	.0011	1.261	.0251	.0280

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0022**	**.0017**	**.0010**	**2.902**	**-.0007**	**.0027**	**.3630**
Stddev	.0001	.0002	.0001	.008	.0012	.0021	.0021
%RSD	3.063	12.15	14.26	.2787	164.6	78.19	.5853
#1	.0023	.0019	.0011	2.903	.0004	.0012	.3626
#2	.0022	.0018	.0011	2.910	-.0005	.0017	.3653
#3	.0021	.0015	.0009	2.894	-.0019	.0051	.3611

Zoom In Zoom Out

Sample Name: jc85953-11conf Acquired: 4/19/2019 0:14:28 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100880.**	**5121.3**	**3623.8**	**8171.7**
Stddev	77.	21.4	4.5	4.1
%RSD	.07633	.41742	.12364	.04973
#1	100970.	5096.8	3627.6	8173.4
#2	100840.	5130.9	3618.9	8174.7
#3	100830.	5136.3	3625.0	8167.1

Zoom In Zoom Out

Sample Name: mp14319-b1 Acquired: 4/19/2019 0:19:53 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.002**	**1.976**	**1.972**	**1.965**	**1.941**	**1.931**	**1.952**	**1.951**
Stddev	.005	.003	.002	.003	.003	.001	.002	.001
%RSD	.2489	.1361	.1011	.1541	.1491	.0647	.0792	.0673
#1	2.007	1.979	1.973	1.965	1.942	1.932	1.951	1.952
#2	2.001	1.975	1.973	1.968	1.938	1.930	1.954	1.951
#3	1.997	1.974	1.970	1.962	1.943	1.932	1.952	1.949

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2526**	**1.907**	**1.958**	**2.023**	**2.053**	**1.968**	**1.979**	**2.073**
Stddev	.0004	.002	.001	.004	.001	.003	.006	.003
%RSD	.1469	.0777	.0725	.1987	.0342	.1536	.2879	.1656
#1	.2530	1.909	1.957	2.026	2.053	1.968	1.980	2.075
#2	.2525	1.906	1.959	2.025	2.053	1.971	1.985	2.074
#3	.2523	1.906	1.960	2.019	2.052	1.965	1.973	2.069

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.55**	**24.76**	**24.81**	**23.78**	**24.41**	**24.87**	**1.979**	**2.037**
Stddev	.03	.06	.03	.06	.04	.05	.003	.003
%RSD	.1121	.2285	.1114	.2501	.1671	.2104	.1367	.1395
#1	24.55	24.81	24.83	23.84	24.46	24.93	1.982	2.039
#2	24.52	24.70	24.81	23.78	24.41	24.85	1.979	2.038
#3	24.57	24.77	24.78	23.72	24.37	24.84	1.976	2.034

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0689**	**2.079**	**2.017**	**1.959**	**1.315**	**1.976**	F **-.0623**	**.0017**
Stddev	.0009	.004	.004	.001	.005	.001	.0019	.0011
%RSD	1.293	.1700	.2172	.0663	.4188	.0360	3.125	61.96
#1	.0689	2.078	2.021	1.957	1.309	1.976	-.0625	.0005
#2	.0680	2.083	2.016	1.959	1.315	1.977	-.0603	.0023
#3	.0698	2.076	2.013	1.960	1.320	1.976	-.0642	.0024

Zoom In Zoom Out

Sample Name: mp14319-b1 Acquired: 4/19/2019 0:19:53 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0013**	**1.978**
Stddev	.0028	.007
%RSD	212.2	.3798
#1	.0021	1.983
#2	-.0018	1.981
#3	.0036	1.969

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98278.**	**5108.7**	**3594.2**	**7654.4**
Stddev	135.	6.3	2.7	6.9
%RSD	.13752	.12311	.07424	.09054
#1	98434.	5104.8	3591.1	7646.4
#2	98192.	5116.0	3596.0	7657.7
#3	98208.	5105.4	3595.5	7659.1

Zoom In Zoom Out

Sample Name: mp14319-mb1 Acquired: 4/19/2019 0:24:59 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0000**	**-.0002**	**.0001**	**.0011**	**.0011**	**.0002**	**.0004**	**-.0009**
Stddev	.0003	.0001	.0001	.0001	.0005	.0001	.0000	.0001	.0001
%RSD	107.2	181.2	54.81	52.48	47.22	10.98	8.008	34.43	11.31
#1	-.0001	-.0001	-.0001	.0002	.0005	.0012	.0001	.0005	-.0008
#2	-.0005	.0000	-.0003	.0002	.0012	.0010	.0002	.0003	-.0010
#3	-.0001	-.0001	-.0002	.0001	.0015	.0010	.0002	.0003	-.0010

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0045**	**.0007**	**-.0003**	**-.0009**	**.0003**	**.0008**	**.0057**	**.0737**
Stddev	.0002	.0001	.0016	.0001	.0005	.0008	.0005	.0214	.0012
%RSD	31.81	2.764	234.6	40.47	49.60	230.9	63.62	377.1	1.596
#1	.0006	.0046	-.0012	-.0004	-.0011	.0004	.0006	-.0045	.0749
#2	.0003	.0044	.0015	-.0004	-.0013	.0011	.0005	-.0088	.0725
#3	.0005	.0044	.0017	-.0002	-.0004	-.0005	.0015	.0303	.0738

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0157**	**.0070**	**.0717**	**.1533**	**.0021**	**.0009**	**.0125**	**.0223**	**.0003**
Stddev	.0031	.0167	.0133	.0096	.0008	.0001	.0012	.0002	.0001
%RSD	19.68	239.6	18.55	6.267	37.67	15.16	9.947	.9240	40.21
#1	.0189	.0232	.0855	.1439	.0030	.0010	.0139	.0224	.0003
#2	.0155	-.0102	.0706	.1631	.0015	.0009	.0116	.0220	.0004
#3	.0127	.0079	.0589	.1530	.0017	.0007	.0120	.0224	.0002

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0161**	**.0004**	**.0134**	**-.0007**	**.0007**	**.0314**
Stddev	.0002	.0024	.0001	.0022	.0007	.0007	.0009
%RSD	141.5	14.68	14.23	16.47	104.6	103.3	2.730
#1	.0000	.0185	.0004	.0123	-.0015	.0006	.0307
#2	.0003	.0161	.0004	.0160	-.0005	.0015	.0323
#3	.0000	.0138	.0005	.0121	-.0001	.0001	.0310

Zoom In Zoom Out

Sample Name: mp14319-mb1 Acquired: 4/19/2019 0:24:59 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102660.**	**5147.9**	**3678.8**	**8336.8**
Stddev	771.	73.2	2.8	6.8
%RSD	.75080	1.4213	.07709	.08194
#1	102210.	5228.1	3679.0	8343.8
#2	102230.	5084.9	3675.9	8336.5
#3	103550.	5130.7	3681.5	8330.1

Zoom In Zoom Out

Sample Name: mp14319-b2 Acquired: 4/19/2019 0:30:30 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.008**	**1.979**	**1.978**	**1.978**	**1.950**	**1.945**	**1.961**	**1.962**
Stddev	.002	.002	.004	.003	.003	.000	.005	.002
%RSD	.1069	.1028	.2023	.1317	.1268	.0219	.2473	.0908
#1	2.006	1.981	1.979	1.980	1.952	1.945	1.967	1.964
#2	2.010	1.979	1.982	1.977	1.948	1.945	1.957	1.961
#3	2.008	1.977	1.974	1.975	1.952	1.945	1.960	1.961

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2533**	**1.918**	**1.959**	**2.027**	**2.071**	**1.979**	**1.986**	**2.078**
Stddev	.0003	.004	.004	.002	.004	.001	.007	.002
%RSD	.1011	.1982	.1998	.1186	.1750	.0348	.3637	.0941
#1	.2534	1.922	1.960	2.025	2.067	1.978	1.988	2.076
#2	.2535	1.914	1.962	2.030	2.073	1.979	1.992	2.080
#3	.2530	1.918	1.954	2.028	2.072	1.979	1.978	2.077

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.75**	**24.87**	**24.83**	**23.81**	**24.53**	**25.04**	**1.989**	**2.040**
Stddev	.03	.02	.08	.07	.03	.01	.002	.002
%RSD	.1254	.0961	.3061	.3014	.1068	.0408	.0824	.1120
#1	24.76	24.89	24.92	23.88	24.50	25.04	1.990	2.039
#2	24.72	24.86	24.80	23.82	24.54	25.03	1.990	2.042
#3	24.78	24.85	24.77	23.73	24.54	25.05	1.987	2.038

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0762**	**2.084**	**2.023**	**1.963**	**1.317**	**1.982**	F **-.0588**	**.0021**
Stddev	.0006	.006	.001	.005	.002	.002	.0008	.0010
%RSD	.7504	.2799	.0577	.2493	.1311	.0994	1.368	49.32
#1	.0767	2.081	2.023	1.968	1.315	1.985	-.0592	.0023
#2	.0756	2.090	2.024	1.958	1.319	1.982	-.0579	.0030
#3	.0763	2.080	2.022	1.963	1.317	1.981	-.0593	.0010

Zoom In Zoom Out

Sample Name: mp14319-b2 Acquired: 4/19/2019 0:30:30 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0009**	**1.993**
Stddev	.0011	.010
%RSD	115.7	.4892
#1	-.0002	1.990
#2	.0012	2.004
#3	.0019	1.985

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98179.**	**5119.3**	**3594.2**	**7648.3**
Stddev	259.	9.3	.8	4.1
%RSD	.26334	.18137	.02299	.05391
#1	98049.	5109.0	3593.4	7644.6
#2	98477.	5127.0	3594.3	7652.8
#3	98012.	5121.9	3595.0	7647.5

Zoom In Zoom Out

Sample Name: jc86180-1 Acquired: 4/19/2019 0:35:36 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0056**	**-.0000**	**.0004**	**.0005**	**.0059**	**.0048**	**.0080**	**.0111**	**-.0007**
Stddev	.0001	.0000	.0000	.0000	.0003	.0002	.0001	.0002	.0004
%RSD	2.255	162.9	10.89	7.024	4.851	4.010	1.017	1.794	55.10
#1	.0057	.0000	.0005	.0005	.0057	.0046	.0079	.0110	-.0011
#2	.0057	-.0001	.0004	.0005	.0062	.0050	.0081	.0109	-.0005
#3	.0055	-.0000	.0004	.0005	.0059	.0047	.0080	.0113	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.0323**	**-.0012**	**-.0016**	**.0077**	**-.0002**	**.0011**	**.1899**	**2.169**
Stddev	.0002	.0001	.0015	.0012	.0003	.0003	.0010	.0103	.006
%RSD	14.68	.3773	126.9	72.82	3.810	156.8	87.88	5.421	.2912
#1	.0012	.0324	-.0011	-.0003	.0077	-.0000	.0021	.1829	2.165
#2	.0012	.0322	-.0027	-.0020	.0073	-.0006	.0003	.1851	2.165
#3	.0009	.0324	.0003	-.0026	.0079	-.0000	.0009	.2017	2.176

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5150**	**1.583**	**.4430**	**3.872**	**.0059**	**.0016**	**.9905**	**.0286**	**.0085**
Stddev	.0007	.035	.0168	.011	.0007	.0001	.0059	.0007	.0001
%RSD	.1353	2.233	3.800	.2770	12.76	4.602	.5998	2.401	.9898
#1	.5156	1.543	.4352	3.859	.0060	.0017	.9852	.0280	.0084
#2	.5143	1.605	.4315	3.878	.0065	.0016	.9893	.0293	.0086
#3	.5152	1.603	.4623	3.878	.0051	.0016	.9969	.0284	.0085

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0098**	**.0212**	**.0024**	**.7533**	**.0010**	**.0049**	**.3816**
Stddev	.0006	.0017	.0002	.0044	.0017	.0004	.0017
%RSD	5.891	7.868	6.949	.5800	179.0	7.945	.4426
#1	.0096	.0227	.0026	.7515	-.0002	.0046	.3807
#2	.0093	.0215	.0023	.7502	.0002	.0053	.3807
#3	.0104	.0194	.0023	.7583	.0030	.0048	.3836

Zoom In Zoom Out

Sample Name: jc86180-1 Acquired: 4/19/2019 0:35:36 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101040.**	**5148.4**	**3638.5**	**8266.1**
Stddev	307.	10.0	1.6	5.8
%RSD	.30345	.19393	.04463	.07070
#1	101260.	5159.8	3639.7	8259.5
#2	101170.	5141.2	3636.7	8268.4
#3	100690.	5144.2	3639.2	8270.4

Zoom In Zoom Out

Sample Name: mp14319-sd1 Acquired: 4/19/2019 0:41:05 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0046**	**-.0008**	**.0001**	**-.0004**	**.0064**	**.0044**	**.0082**	**.0136**	**-.0054**
Stddev	.0012	.0003	.0007	.0001	.0001	.0004	.0001	.0003	.0007
%RSD	25.23	36.57	511.0	34.41	1.750	8.341	.8321	2.159	12.82
#1	.0051	-.0009	-.0006	-.0003	.0064	.0039	.0082	.0139	-.0060
#2	.0055	-.0004	.0003	-.0005	.0062	.0046	.0083	.0133	-.0055
#3	.0033	-.0009	.0007	-.0005	.0064	.0046	.0082	.0136	-.0046

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**.0413**	**-.0003**	**-.0047**	**.0052**	**-.0018**	**.0030**	**.2326**	**2.404**
Stddev	.0006	.0001	.0023	.0034	.0044	.0057	.0031	.0311	.028
%RSD	23.10	.2360	761.0	70.94	84.50	311.0	103.3	13.39	1.159
#1	.0019	.0412	-.0019	-.0009	.0054	.0039	.0067	.2398	2.432
#2	.0031	.0414	.0023	-.0059	.0007	-.0075	.0010	.1985	2.404
#3	.0025	.0412	-.0013	-.0073	.0094	-.0019	.0015	.2595	2.377

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5435**	**1.481**	**.4501**	**4.173**	**.0058**	**.0025**	**1.020**	**.0267**	**.0087**
Stddev	.0144	.221	.1348	.022	.0013	.0002	.008	.0019	.0003
%RSD	2.659	14.91	29.96	.5228	22.90	9.449	.7574	6.974	3.473
#1	.5486	1.735	.6056	4.198	.0046	.0028	1.014	.0249	.0084
#2	.5547	1.374	.3653	4.161	.0072	.0024	1.028	.0286	.0088
#3	.5272	1.334	.3794	4.159	.0055	.0023	1.016	.0266	.0090

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0085**	**.0615**	**.0024**	**.7867**	**-.0035**	**.0097**	**.4177**
Stddev	.0009	.0030	.0008	.0016	.0017	.0043	.0056
%RSD	10.99	4.904	32.14	.1996	47.52	44.99	1.342
#1	.0078	.0644	.0020	.7877	-.0053	.0050	.4236
#2	.0083	.0584	.0032	.7874	-.0034	.0136	.4170
#3	.0096	.0615	.0019	.7849	-.0020	.0105	.4125

Zoom In Zoom Out

Sample Name: mp14319-sd1 Acquired: 4/19/2019 0:41:05 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101280.**	**5102.7**	**3673.2**	**8292.6**
Stddev	168.	31.5	3.3	5.4
%RSD	.16560	.61670	.09016	.06530
#1	101390.	5111.5	3676.1	8290.0
#2	101090.	5067.7	3669.6	8289.0
#3	101370.	5128.8	3674.0	8298.9

Zoom In Zoom Out

Sample Name: jc86180-2 Acquired: 4/19/2019 0:46:36 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0056**	**-.0001**	**.0004**	**.0002**	**.0028**	**.0029**	**.0089**	**.0039**	**-.0012**
Stddev	.0003	.0001	.0002	.0000	.0002	.0001	.0001	.0001	.0003
%RSD	5.893	172.2	50.90	5.304	5.765	4.162	.8643	3.173	23.33
#1	.0060	.0001	.0005	.0002	.0029	.0028	.0088	.0038	-.0014
#2	.0053	-.0001	.0006	.0002	.0028	.0030	.0089	.0040	-.0009
#3	.0056	-.0002	.0002	.0002	.0026	.0029	.0089	.0040	-.0015

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0248**	**-.0011**	**-.0019**	**.0080**	**.0002**	**.0007**	**.1057**	**2.425**
Stddev	.0005	.0001	.0010	.0007	.0003	.0018	.0009	.0079	.004
%RSD	83.65	.5767	96.46	38.59	3.340	891.6	127.7	7.464	.1618
#1	.0010	.0250	-.0005	-.0010	.0077	-.0005	.0002	.1103	2.430
#2	.0006	.0247	-.0023	-.0024	.0082	.0022	.0001	.1101	2.422
#3	.0001	.0247	-.0005	-.0022	.0082	-.0011	.0017	.0965	2.424

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2126**	**1.210**	**.3225**	**3.716**	**.0050**	**.0010**	**.7391**	**.0251**	**.0095**
Stddev	.0043	.012	.0121	.022	.0001	.0002	.0006	.0008	.0001
%RSD	2.015	.9730	3.751	.5933	2.801	17.39	.0802	3.185	.8531
#1	.2079	1.196	.3345	3.702	.0049	.0008	.7387	.0243	.0094
#2	.2163	1.217	.3225	3.741	.0050	.0011	.7387	.0259	.0095
#3	.2136	1.217	.3103	3.704	.0052	.0010	.7397	.0252	.0096

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0037**	**.0130**	**.0010**	**1.528**	**-.0007**	**.0018**	**.3198**
Stddev	.0005	.0008	.0001	.005	.0011	.0013	.0018
%RSD	14.28	6.356	14.38	.3378	156.9	75.03	.5549
#1	.0040	.0134	.0010	1.528	-.0013	.0014	.3188
#2	.0039	.0121	.0011	1.523	.0006	.0033	.3188
#3	.0031	.0136	.0008	1.533	-.0015	.0007	.3218

Zoom In Zoom Out

Sample Name: jc86180-2 Acquired: 4/19/2019 0:46:36 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101140.**	**5143.7**	**3636.6**	**8260.9**
Stddev	160.	29.3	1.8	13.2
%RSD	.15853	.56975	.05082	.15999
#1	101180.	5119.0	3638.7	8249.9
#2	100960.	5176.1	3636.0	8275.5
#3	101270.	5136.1	3635.1	8257.1

Zoom In Zoom Out

Sample Name: jc86180-3 Acquired: 4/19/2019 0:52:05 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0068**	**-.0000**	**.0003**	**.0000**	**.0025**	**.0044**	**.0063**	**.0063**	**-.0009**
Stddev	.0003	.0001	.0001	.0002	.0002	.0000	.0000	.0001	.0003
%RSD	4.561	257.7	52.99	855.9	7.272	.6348	.5625	1.262	30.46
#1	.0068	-.0000	.0004	-.0002	.0025	.0044	.0063	.0063	-.0006
#2	.0065	-.0001	.0002	.0002	.0024	.0044	.0064	.0063	-.0009
#3	.0071	.0001	.0001	.0000	.0027	.0043	.0063	.0062	-.0011

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0311**	**-.0012**	**-.0012**	**.0041**	**.0018**	**.0018**	**.1341**	**1.800**
Stddev	.0003	.0001	.0013	.0007	.0010	.0008	.0013	.0046	.017
%RSD	36.82	.3248	109.0	63.68	23.77	45.40	71.69	3.433	.9668
#1	.0004	.0311	-.0013	-.0020	.0049	.0009	.0006	.1371	1.780
#2	.0010	.0310	.0002	-.0006	.0043	.0020	.0016	.1288	1.807
#3	.0007	.0312	-.0024	-.0008	.0030	.0025	.0031	.1364	1.812

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2156**	**.7641**	**.2501**	**5.038**	**.0037**	**.0008**	**.7737**	**.0257**	**.0090**
Stddev	.0047	.0207	.0119	.015	.0006	.0000	.0015	.0006	.0001
%RSD	2.193	2.704	4.769	.2950	17.08	5.990	.1904	2.381	1.178
#1	.2124	.7863	.2621	5.039	.0044	.0008	.7751	.0257	.0090
#2	.2211	.7607	.2500	5.053	.0036	.0008	.7736	.0263	.0088
#3	.2135	.7453	.2383	5.023	.0032	.0007	.7722	.0251	.0090

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040**	**.0069**	**.0007**	**.3829**	**-.0005**	**.0000**	**.1892**
Stddev	.0001	.0003	.0001	.0024	.0009	.0009	.0000
%RSD	3.209	3.672	15.56	.6158	188.4	3459.	.0175
#1	.0039	.0071	.0007	.3847	.0004	.0003	.1892
#2	.0042	.0070	.0009	.3802	-.0005	.0007	.1891
#3	.0039	.0066	.0007	.3837	-.0013	-.0009	.1892

Zoom In Zoom Out

Sample Name: jc86180-3 Acquired: 4/19/2019 0:52:05 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101360.**	**5116.5**	**3640.7**	**8272.3**
Stddev	18.	17.5	1.4	4.7
%RSD	.01776	.34239	.03807	.05628
#1	101350.	5124.0	3640.2	8276.9
#2	101380.	5129.1	3642.3	8272.5
#3	101350.	5096.5	3639.7	8267.5

Zoom In Zoom Out

Sample Name: jc86180-4 Acquired: 4/19/2019 0:57:35 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0041**	**-.0001**	**.0002**	**.0003**	**.0030**	**.0017**	**.0074**	**.0027**	**.0001**
Stddev	.0001	.0000	.0001	.0002	.0001	.0003	.0001	.0000	.0003
%RSD	3.476	60.21	61.01	67.24	3.679	14.89	.9275	.9270	573.2
#1	.0040	-.0000	.0002	.0002	.0031	.0015	.0073	.0027	-.0001
#2	.0041	-.0001	.0003	.0005	.0029	.0017	.0073	.0028	.0004
#3	.0042	-.0001	.0001	.0001	.0031	.0020	.0075	.0027	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0174**	**-.0012**	**-.0017**	**.0017**	**.0007**	**.0013**	**.1098**	**1.905**
Stddev	.0001	.0000	.0006	.0002	.0012	.0011	.0005	.0119	.004
%RSD	32.79	.1827	48.62	13.39	69.99	155.3	34.51	10.80	.1862
#1	.0004	.0174	-.0017	-.0018	.0004	-.0001	.0019	.0966	1.905
#2	.0003	.0174	-.0006	-.0018	.0029	.0019	.0011	.1134	1.908
#3	.0006	.0174	-.0011	-.0014	.0019	.0002	.0011	.1195	1.901

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2286**	**1.081**	**.1604**	**3.434**	**.0035**	**.0008**	**.8553**	**.0237**	**.0088**
Stddev	.0049	.065	.0141	.004	.0005	.0003	.0020	.0004	.0001
%RSD	2.136	5.996	8.812	.1268	15.60	33.17	.2375	1.795	.8110
#1	.2330	1.106	.1690	3.432	.0030	.0006	.8551	.0242	.0087
#2	.2234	1.007	.1441	3.439	.0033	.0008	.8533	.0237	.0089
#3	.2294	1.130	.1680	3.431	.0041	.0011	.8574	.0233	.0088

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0042**	**.0058**	**.0011**	**.9877**	**-.0005**	**.0013**	**.2097**
Stddev	.0005	.0006	.0001	.0035	.0009	.0007	.0012
%RSD	10.85	10.02	5.423	.3508	188.2	56.65	.5809
#1	.0039	.0051	.0011	.9863	-.0010	.0006	.2087
#2	.0047	.0060	.0010	.9850	.0005	.0013	.2111
#3	.0039	.0063	.0011	.9916	-.0009	.0021	.2093

Zoom In Zoom Out

Sample Name: jc86180-4 Acquired: 4/19/2019 0:57:35 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101450.**	**5137.8**	**3645.2**	**8279.1**
Stddev	295.	7.5	1.6	4.1
%RSD	.29086	.14579	.04321	.04918
#1	101710.	5142.0	3646.0	8282.7
#2	101520.	5129.1	3646.1	8280.0
#3	101130.	5142.2	3643.4	8274.7

Zoom In Zoom Out

Sample Name: jc86180-5 Acquired: 4/19/2019 1:03:06 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0008**	**-.0002**	**-.0003**	**.0003**	**-.0000**	W **-.0052**	**-.0001**	**.0004**
Stddev	.0001	.0001	.0000	.0001	.0000	.0002	.0000	.0001
%RSD	16.60	60.53	6.630	22.36	200.9	4.336	.3581	31.64
#1	-.0007	-.0004	-.0003	.0003	-.0001	-.0053	-.0001	.0004
#2	-.0008	-.0001	-.0003	.0002	-.0000	-.0049	-.0001	.0005
#3	-.0009	-.0003	-.0003	.0002	.0000	-.0053	-.0001	.0003

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0025**	**.0003**	**-.0001**	**.0020**	**.0010**	**.0003**	**-.0028**	**.0026**
Stddev	.0002	.0001	.0000	.0003	.0002	.0004	.0002	.0004
%RSD	7.681	34.76	38.45	12.54	20.37	130.4	8.858	16.70
#1	-.0027	.0004	-.0001	.0020	.0011	-.0000	-.0031	.0023
#2	-.0025	.0002	-.0001	.0023	.0010	.0002	-.0026	.0024
#3	-.0023	.0004	-.0001	.0018	.0008	.0007	-.0027	.0031

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0013**	**-.0041**	**.0133**	**-.0508**	**-.0165**	**-.0002**	**-.0002**
Stddev	.0050	.0042	.0044	.0050	.0139	.0142	.0001	.0001
%RSD	1405.	315.0	107.0	37.68	27.32	85.92	39.79	35.05
#1	-.0060	-.0032	-.0079	.0098	-.0629	-.0001	-.0003	-.0002
#2	.0014	.0035	-.0050	.0111	-.0357	-.0240	-.0003	-.0003
#3	.0035	-.0043	.0007	.0191	-.0539	-.0253	-.0001	-.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0064**	**-.0006**	**-.0001**	**-.0002**	**-.0005**	**.0002**	**.0101**	**.0007**
Stddev	.0004	.0001	.0001	.0001	.0003	.0001	.0011	.0003
%RSD	6.222	24.18	83.44	60.68	74.06	67.73	11.13	39.49
#1	-.0060	-.0005	-.0001	-.0001	-.0009	.0001	.0107	.0006
#2	-.0067	-.0008	-.0000	-.0003	-.0002	.0002	.0088	.0005
#3	-.0065	-.0006	-.0000	-.0003	-.0003	.0003	.0107	.0010

Zoom In Zoom Out

Sample Name: jc86180-5 Acquired: 4/19/2019 1:03:06 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0002**	**-.0025**
Stddev	.0011	.0001
%RSD	593.5	5.429
#1	.0004	-.0024
#2	-.0014	-.0026
#3	.0005	-.0024

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**242240.**	**8542.8**	**10919.**	**23861.**
Stddev	726.	86.3	420.	836.
%RSD	.29970	1.0106	3.8444	3.5021
#1	241560.	8467.4	11404.	24825.
#2	242150.	8523.9	10694.	23407.
#3	243010.	8637.0	10661.	23350.

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 1:08:36 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.036**	**2.008**	**2.001**	**2.016**	**1.977**	**1.960**	**1.988**	**1.999**	**.2452**
Stddev	.003	.006	.001	.004	.002	.001	.002	.003	.0004
%RSD	.1690	.3139	.0652	.2025	.1182	.0436	.1208	.1352	.1604
#1	2.040	2.014	2.001	2.020	1.977	1.961	1.985	2.001	.2448
#2	2.035	2.007	2.001	2.017	1.974	1.960	1.988	1.999	.2455
#3	2.033	2.002	2.003	2.012	1.978	1.960	1.990	1.996	.2454
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.958**	**1.988**	**1.999**	**2.064**	**2.016**	**2.023**	**2.043**	**39.99**	**40.22**
Stddev	.002	.004	.002	.003	.008	.002	.005	.11	.15
%RSD	.1131	.1857	.0883	.1282	.4005	.1048	.2283	.2720	.3831
#1	1.956	1.990	1.998	2.061	2.018	2.022	2.047	40.08	40.37
#2	1.957	1.990	2.001	2.066	2.023	2.020	2.038	40.01	40.23
#3	1.960	1.984	1.999	2.066	2.007	2.025	2.045	39.87	40.07
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.10**	**38.93**	**40.14**	**40.84**	**2.079**	**2.024**	**5.209**	**2.023**	**2.059**
Stddev	.09	.26	.13	.10	.005	.002	.004	.003	.005
%RSD	.2234	.6752	.3235	.2419	.2320	.1136	.0864	.1564	.2323
#1	40.19	39.13	40.25	40.91	2.080	2.025	5.212	2.021	2.064
#2	40.09	39.02	40.16	40.88	2.074	2.021	5.204	2.027	2.058
#3	40.02	38.63	40.00	40.73	2.084	2.025	5.212	2.021	2.054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 1:08:36 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.938**	**1.985**	**1.954**	**2.053**	**2.094**	**1.996**	**2.006**
Stddev	.001	.004	.000	.002	.003	.005	.003
%RSD	.0727	.1845	.0169	.1039	.1233	.2508	.1695
#1	1.938	1.989	1.953	2.054	2.095	1.998	2.004
#2	1.937	1.982	1.954	2.050	2.091	2.000	2.004
#3	1.940	1.984	1.954	2.054	2.096	1.990	2.010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**95882.**	**4957.2**	**3545.8**	**7404.2**
Stddev	86.	17.6	3.8	6.5
%RSD	.08992	.35437	.10647	.08746
#1	95977.	4962.0	3544.9	7397.0
#2	95809.	4937.7	3550.0	7409.5
#3	95859.	4971.9	3542.6	7406.2

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 1:13:38 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0001**	**-.0000**	**.0002**	**.0002**	**-.0004**	**-.0001**	**.0003**	**-.0014**
Stddev	.0003	.0001	.0001	.0001	.0004	.0002	.0001	.0001	.0004
%RSD	118.1	53.26	3346.	37.30	220.5	39.24	128.7	42.88	25.08
#1	-.0006	-.0001	.0000	.0002	.0004	-.0005	-.0001	.0004	-.0010
#2	-.0003	-.0002	.0001	.0003	.0004	-.0005	-.0002	.0002	-.0015
#3	.0001	-.0001	-.0001	.0001	-.0003	-.0002	.0000	.0002	-.0017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0001**	**.0001**	**-.0003**	**-.0015**	**-.0010**	**.0000**	**-.0079**	**-.0008**
Stddev	.0003	.0002	.0006	.0011	.0009	.0022	.0019	.0055	.0025
%RSD	207.5	125.7	446.6	398.8	55.87	230.0	6463.	69.62	313.4
#1	.0000	-.0001	.0008	-.0006	-.0016	-.0018	-.0001	-.0016	-.0030
#2	-.0001	-.0003	.0002	.0009	-.0007	-.0027	.0020	-.0118	.0019
#3	.0005	.0000	-.0005	-.0012	-.0024	.0016	-.0018	-.0101	-.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0037**	**.0013**	**.0563**	**.0404**	**.0010**	**.0003**	**.0017**	**-.0003**	**.0000**
Stddev	.0079	.0372	.0056	.0069	.0001	.0002	.0002	.0006	.0001
%RSD	214.8	2799.	9.999	16.98	11.23	87.85	8.647	185.6	970.3
#1	.0116	.0061	.0624	.0341	.0009	.0003	.0018	-.0004	.0000
#2	-.0043	.0359	.0553	.0477	.0012	.0005	.0016	.0003	.0001
#3	.0037	-.0380	.0513	.0393	.0010	.0000	.0019	-.0009	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 1:13:38 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0032**	**.0001**	**.0030**	**-.0010**	**.0015**	**.0076**
Stddev	.0002	.0002	.0001	.0020	.0011	.0008	.0011
%RSD	65.04	5.574	94.58	67.68	105.9	57.61	14.14
#1	-.0003	.0030	-.0000	.0037	.0001	.0024	.0081
#2	-.0001	.0032	.0002	.0046	-.0011	.0012	.0084
#3	-.0005	.0033	.0002	.0007	-.0021	.0008	.0064
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100910.**	**5004.7**	**3664.4**	**8255.6**
Stddev	448.	19.2	5.8	1.8
%RSD	.44421	.38300	.15930	.02231
#1	100640.	5023.9	3667.5	8254.2
#2	100660.	4985.5	3668.0	8257.6
#3	101430.	5004.8	3657.7	8254.9

Zoom In Zoom Out

Sample Name: jc86180-6 Acquired: 4/19/2019 1:19:11 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3298**	**.0008**	**.0005**	**.0125**	**.0589**	**.1366**	**.4629**	**.0495**
Stddev	.0004	.0001	.0000	.0002	.0006	.0016	.0053	.0003
%RSD	.1321	9.034	9.319	1.853	1.027	1.192	1.148	.5144
#1	.3297	.0009	.0004	.0126	.0583	.1353	.4579	.0495
#2	.3303	.0007	.0005	.0122	.0595	.1384	.4685	.0498
#3	.3294	.0008	.0005	.0126	.0589	.1362	.4622	.0492

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0235**	**.0119**	F **41.52**	**.0008**	F **-.0056**	**.0687**	**.0127**	**.0188**
Stddev	.0006	.0001	.08	.0002	.0007	.0005	.0007	.0011
%RSD	2.432	1.198	.1888	24.11	12.18	.6951	5.721	5.689
#1	-.0228	.0118	41.60	.0008	-.0063	.0692	.0125	.0199
#2	-.0238	.0119	41.45	.0006	-.0050	.0686	.0135	.0187
#3	-.0238	.0120	41.52	.0010	-.0054	.0683	.0121	.0177

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.408**	**27.66**	**178.6**	**6.173**	**2.378**	**5.488**	**.0370**	**.0085**
Stddev	.005	.04	.3	.049	.025	.023	.0007	.0002
%RSD	.1491	.1349	.1959	.7883	1.030	.4183	1.955	2.449
#1	3.406	27.64	178.3	6.138	2.374	5.505	.0369	.0083
#2	3.404	27.70	179.0	6.153	2.404	5.496	.0378	.0087
#3	3.413	27.63	178.4	6.229	2.355	5.462	.0364	.0086

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.421**	**.0388**	**.1294**	**.1614**	**.1258**	**.0077**	**6.485**	**.0066**
Stddev	.017	.0010	.0007	.0016	.0015	.0002	.014	.0022
%RSD	.4809	2.457	.5301	1.017	1.171	2.304	.2126	33.45
#1	3.429	.0388	.1286	.1596	.1266	.0078	6.475	.0056
#2	3.431	.0378	.1300	.1628	.1267	.0077	6.501	.0052
#3	3.402	.0397	.1296	.1618	.1241	.0075	6.479	.0092

Zoom In Zoom Out

Sample Name: jc86180-6 Acquired: 4/19/2019 1:19:11 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0069**	**.4430**
Stddev	.0002	.0029
%RSD	2.519	.6573
#1	.0071	.4420
#2	.0068	.4462
#3	.0068	.4406

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98018.**	**5036.2**	**3522.1**	**7923.9**
Stddev	1034.	23.5	4.3	8.6
%RSD	1.0544	.46745	.12088	.10864
#1	98928.	5059.2	3517.8	7914.0
#2	96894.	5012.1	3522.3	7928.8
#3	98231.	5037.2	3526.3	7928.9

Zoom In Zoom Out

Sample Name: jc86180-7 Acquired: 4/19/2019 1:24:35 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2374**	**.0006**	**.0004**	**.0083**	**.0397**	**.1500**	**.3741**	**.0363**
Stddev	.0005	.0000	.0001	.0003	.0002	.0005	.0005	.0005
%RSD	.2033	7.760	26.53	3.222	.4022	.3643	.1424	1.498
#1	.2378	.0006	.0004	.0081	.0396	.1497	.3743	.0357
#2	.2377	.0006	.0006	.0086	.0396	.1497	.3744	.0363
#3	.2369	.0006	.0003	.0083	.0398	.1507	.3734	.0368

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0114**	**.0134**	F **19.22**	**.0047**	F **-.0031**	**.0312**	**.0060**	**.0158**
Stddev	.0002	.0004	.01	.0005	.0011	.0009	.0008	.0006
%RSD	1.440	2.612	.0750	11.32	36.41	2.986	13.39	3.781
#1	-.0113	.0138	19.23	.0042	-.0037	.0323	.0052	.0162
#2	-.0115	.0131	19.23	.0046	-.0038	.0305	.0068	.0160
#3	-.0112	.0135	19.21	.0053	-.0018	.0309	.0061	.0151

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.967**	**31.17**	**117.1**	**7.658**	**2.797**	**5.516**	**.0178**	**.0060**
Stddev	.013	.06	.2	.024	.025	.042	.0002	.0003
%RSD	.2535	.1939	.1513	.3160	.9131	.7683	1.379	4.625
#1	4.955	31.23	117.2	7.630	2.825	5.550	.0181	.0063
#2	4.968	31.18	117.3	7.672	2.788	5.530	.0177	.0061
#3	4.980	31.11	116.9	7.673	2.776	5.468	.0177	.0057

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.322**	**.0398**	**.1401**	**.2760**	**.0365**	**.0260**	**4.111**	**.0062**
Stddev	.004	.0003	.0004	.0001	.0014	.0002	.016	.0009
%RSD	.1512	.8025	.2891	.0528	3.815	.7768	.3818	14.21
#1	2.324	.0395	.1400	.2759	.0368	.0261	4.119	.0056
#2	2.318	.0401	.1398	.2760	.0350	.0257	4.093	.0072
#3	2.324	.0399	.1406	.2762	.0378	.0261	4.121	.0059

Zoom In Zoom Out

Sample Name: jc86180-7 Acquired: 4/19/2019 1:24:35 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0086**	**.6110**
Stddev	.0006	.0023
%RSD	6.756	.3739
#1	.0092	.6128
#2	.0085	.6084
#3	.0081	.6118

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98980.**	**5083.4**	**3558.9**	**7937.7**
Stddev	82.	9.5	3.7	6.5
%RSD	.08288	.18709	.10408	.08214
#1	98965.	5073.9	3562.0	7941.3
#2	98906.	5083.3	3559.9	7941.7
#3	99068.	5092.9	3554.8	7930.2

Zoom In Zoom Out

Sample Name: jc86180-8 Acquired: 4/19/2019 1:29:55 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0166**	**.0001**	**-.0001**	**.0002**	**.0093**	**.0147**	**.0151**	**.0110**
Stddev	.0003	.0000	.0000	.0001	.0003	.0004	.0001	.0002
%RSD	1.918	41.98	36.21	58.26	3.174	2.881	.9386	1.974
#1	.0169	.0001	-.0001	.0002	.0095	.0144	.0150	.0112
#2	.0165	.0001	-.0001	.0001	.0089	.0152	.0152	.0108
#3	.0163	.0001	-.0001	.0002	.0094	.0145	.0150	.0110

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0114**	**.0005**	F **17.96**	**-.0026**	**-.0017**	**.0120**	**.0060**	**.0141**
Stddev	.0002	.0003	.04	.0005	.0015	.0007	.0015	.0004
%RSD	1.378	60.25	.2057	18.56	86.21	5.815	24.87	2.735
#1	-.0112	.0004	17.99	-.0031	-.0034	.0117	.0065	.0136
#2	-.0115	.0009	17.95	-.0021	-.0010	.0128	.0044	.0141
#3	-.0114	.0003	17.92	-.0026	-.0007	.0115	.0073	.0144

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1579**	**3.194**	**1.764**	**1.492**	**.5383**	**3.397**	**.0046**	**.0005**
Stddev	.0200	.010	.012	.036	.0319	.006	.0009	.0001
%RSD	12.67	.2994	.6846	2.446	5.921	.1842	19.96	11.08
#1	.1801	3.201	1.751	1.533	.5091	3.400	.0041	.0006
#2	.1411	3.183	1.774	1.466	.5335	3.401	.0040	.0006
#3	.1525	3.198	1.768	1.475	.5723	3.390	.0056	.0005

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5816**	**.0259**	**.0181**	**.0060**	**.0246**	**.0008**	**2.701**	**-.0004**
Stddev	.0005	.0006	.0002	.0001	.0010	.0001	.008	.0011
%RSD	.0925	2.128	.8489	1.677	4.098	16.02	.2881	263.9
#1	.5811	.0265	.0180	.0061	.0249	.0009	2.709	-.0015
#2	.5822	.0254	.0180	.0060	.0255	.0008	2.694	-.0005
#3	.5815	.0258	.0183	.0059	.0235	.0007	2.700	.0007

Zoom In Zoom Out

Sample Name: jc86180-8 Acquired: 4/19/2019 1:29:55 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0017**	**.5511**
Stddev	.0014	.0020
%RSD	83.70	.3698
#1	.0001	.5534
#2	.0021	.5502
#3	.0027	.5496

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100590.**	**5102.4**	**3636.3**	**8236.1**
Stddev	733.	30.9	3.6	6.9
%RSD	.72870	.60523	.09889	.08332
#1	100290.	5099.8	3639.2	8233.9
#2	100060.	5134.5	3632.3	8230.7
#3	101430.	5072.9	3637.5	8243.8

Zoom In Zoom Out

Sample Name: jc86180-9 Acquired: 4/19/2019 1:35:19 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6536**	**.0007**	**.0014**	**.0049**	**.0539**	**.0264**	**.0845**	**.0126**
Stddev	.0013	.0001	.0002	.0001	.0004	.0002	.0001	.0002
%RSD	.1977	14.85	11.87	2.025	.8163	.7737	.0879	1.535
#1	.6550	.0006	.0014	.0049	.0536	.0267	.0846	.0128
#2	.6524	.0008	.0016	.0051	.0538	.0264	.0845	.0127
#3	.6533	.0007	.0012	.0049	.0544	.0263	.0845	.0124

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0407**	**.0040**	F **71.47**	F **-.0082**	F **-.0083**	**.0901**	**.0204**	**.0167**
Stddev	.0008	.0002	.49	.0007	.0008	.0009	.0005	.0004
%RSD	2.021	6.145	.6852	8.083	9.604	1.016	2.226	2.510
#1	-.0406	.0043	71.09	-.0074	-.0090	.0903	.0209	.0171
#2	-.0416	.0040	72.02	-.0086	-.0074	.0909	.0201	.0164
#3	-.0399	.0038	71.29	-.0085	-.0084	.0891	.0202	.0165

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.299**	**9.510**	**24.33**	**2.282**	**1.778**	**5.446**	**.0338**	**.0042**
Stddev	.008	.024	.06	.032	.049	.007	.0003	.0001
%RSD	.6035	.2469	.2261	1.393	2.780	.1308	.9177	2.602
#1	1.300	9.537	24.28	2.300	1.785	5.454	.0339	.0041
#2	1.291	9.493	24.31	2.300	1.824	5.444	.0341	.0043
#3	1.307	9.500	24.39	2.245	1.726	5.440	.0335	.0042

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.969**	**.0428**	**.0500**	**.0885**	**.3732**	W **-.0049**	**4.707**	**.0003**
Stddev	.003	.0004	.0002	.0005	.0051	.0001	.013	.0005
%RSD	.1569	.9656	.4111	.5527	1.378	2.709	.2669	189.3
#1	1.973	.0431	.0498	.0882	.3752	-.0049	4.695	.0008
#2	1.968	.0423	.0502	.0890	.3673	-.0048	4.705	-.0003
#3	1.967	.0430	.0500	.0882	.3770	-.0050	4.720	.0003

Zoom In Zoom Out

Sample Name: jc86180-9 Acquired: 4/19/2019 1:35:19 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0023**	**.2930**
Stddev	.0028	.0011
%RSD	122.5	.3703
#1	.0047	.2936
#2	.0031	.2936
#3	-.0008	.2917

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99990.**	**5116.8**	**3600.9**	**8116.1**
Stddev	69.	29.9	2.2	5.4
%RSD	.06866	.58343	.06126	.06677
#1	99949.	5086.7	3601.1	8116.4
#2	100070.	5117.3	3598.6	8110.5
#3	99951.	5146.4	3603.0	8121.3

Zoom In Zoom Out

Sample Name: jc86180-10 Acquired: 4/19/2019 1:40:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**-.0002**	**-.0002**	**.0003**	**-.0001**	W **-.0051**	**-.0001**	**.0003**
Stddev	.0001	.0001	.0001	.0001	.0003	.0001	.0000	.0000
%RSD	23.29	28.32	37.80	33.30	272.8	2.849	22.05	13.99
#1	-.0005	-.0003	-.0001	.0002	-.0004	-.0052	-.0001	.0003
#2	-.0004	-.0001	-.0003	.0004	-.0001	-.0050	-.0001	.0003
#3	-.0007	-.0002	-.0003	.0003	.0002	-.0050	-.0001	.0004

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0029**	**.0003**	**.0001**	**.0020**	**.0012**	**.0005**	**-.0025**	**.0019**
Stddev	.0003	.0001	.0001	.0007	.0002	.0004	.0003	.0006
%RSD	10.26	46.14	107.1	36.90	19.59	70.44	13.76	32.44
#1	-.0025	.0004	.0001	.0018	.0011	.0003	-.0021	.0025
#2	-.0029	.0002	.0002	.0028	.0011	.0003	-.0026	.0020
#3	-.0031	.0003	-.0000	.0014	.0015	.0010	-.0028	.0012

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0046**	**-.0008**	**-.0019**	**.0072**	**-.0392**	**-.0104**	**-.0004**	**-.0002**
Stddev	.0122	.0017	.0051	.0442	.0284	.0044	.0001	.0001
%RSD	267.0	216.3	265.5	610.4	72.50	42.11	35.06	32.26
#1	-.0065	.0004	.0013	-.0437	-.0066	-.0115	-.0004	-.0002
#2	.0176	.0000	.0007	.0303	-.0521	-.0056	-.0002	-.0003
#3	.0025	-.0027	-.0078	.0351	-.0589	-.0142	-.0005	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0063**	**-.0007**	**.0000**	**-.0001**	**-.0011**	**.0001**	**.0090**	**.0008**
Stddev	.0002	.0001	.0001	.0001	.0003	.0000	.0005	.0004
%RSD	3.184	11.01	1246.	96.23	24.50	28.12	5.825	45.62
#1	-.0062	-.0008	-.0001	.0000	-.0012	.0002	.0086	.0013
#2	-.0066	-.0007	.0001	-.0001	-.0008	.0001	.0087	.0006
#3	-.0063	-.0006	-.0001	-.0002	-.0012	.0001	.0096	.0006

Zoom In Zoom Out

Sample Name: jc86180-10 Acquired: 4/19/2019 1:40:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0006**	**-.0018**
Stddev	.0010	.0006
%RSD	158.2	36.33
#1	-.0013	-.0010
#2	-.0011	-.0022
#3	.0005	-.0021

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**239070.**	**8575.8**	**10611.**	**23222.**
Stddev	4000.	35.6	186.	355.
%RSD	1.6731	.41554	1.7486	1.5307
#1	238640.	8535.9	10459.	22929.
#2	235300.	8587.0	10556.	23120.
#3	243260.	8604.5	10818.	23618.

Zoom In Zoom Out

Sample Name: jc86180-11 Acquired: 4/19/2019 1:46:23 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0647**	**.0002**	**.0007**	**.0014**	**.0231**	**.0235**	**.0467**	**.0064**
Stddev	.0003	.0001	.0001	.0002	.0006	.0005	.0001	.0003
%RSD	.4832	44.37	9.232	18.24	2.625	2.106	.2872	4.669
#1	.0650	.0003	.0007	.0015	.0234	.0239	.0468	.0061
#2	.0647	.0001	.0006	.0011	.0235	.0230	.0466	.0063
#3	.0644	.0002	.0007	.0015	.0224	.0236	.0466	.0067

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0119**	**.0033**	F **18.84**	**-.0008**	F **-.0020**	**.0322**	**.0049**	**.0106**
Stddev	.0002	.0003	.02	.0006	.0005	.0007	.0009	.0017
%RSD	1.708	8.541	.1170	81.40	27.05	2.082	17.70	15.67
#1	-.0116	.0034	18.82	-.0011	-.0014	.0314	.0054	.0125
#2	-.0120	.0035	18.86	-.0000	-.0024	.0324	.0053	.0095
#3	-.0120	.0030	18.84	-.0012	-.0023	.0326	.0039	.0099

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.152**	**9.139**	**6.966**	**2.192**	**.8370**	**3.824**	**.0240**	**.0017**
Stddev	.009	.017	.012	.029	.0214	.008	.0003	.0000
%RSD	.7704	.1831	.1710	1.319	2.556	.2103	1.123	1.441
#1	1.162	9.136	6.978	2.211	.8238	3.833	.0239	.0017
#2	1.145	9.157	6.965	2.207	.8617	3.819	.0237	.0017
#3	1.148	9.124	6.955	2.159	.8254	3.819	.0243	.0017

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.615**	**.0371**	**.0393**	**.0735**	**.0278**	**.0027**	**3.127**	**-.0007**
Stddev	.005	.0000	.0002	.0003	.0007	.0001	.010	.0006
%RSD	.3247	.1066	.4554	.3697	2.635	4.007	.3154	78.15
#1	1.619	.0371	.0392	.0732	.0285	.0027	3.139	-.0003
#2	1.609	.0371	.0395	.0737	.0279	.0026	3.122	-.0006
#3	1.617	.0371	.0392	.0735	.0270	.0028	3.122	-.0014

Zoom In Zoom Out

Sample Name: jc86180-11 Acquired: 4/19/2019 1:46:23 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0024**	**.3205**
Stddev	.0011	.0025
%RSD	43.56	.7721
#1	.0021	.3216
#2	.0016	.3224
#3	.0036	.3177

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100190.**	**5062.2**	**3605.4**	**8083.4**
Stddev	301.	17.8	3.4	11.8
%RSD	.30008	.35100	.09526	.14645
#1	99843.	5060.0	3604.6	8071.4
#2	100320.	5045.7	3602.3	8083.8
#3	100400.	5081.0	3609.1	8095.0

Zoom In Zoom Out

Sample Name: jc86180-12 Acquired: 4/19/2019 1:51:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3258**	**.0009**	**.0046**	**.0063**	**.0580**	**.2102**	**.2411**	**.0487**
Stddev	.0009	.0001	.0001	.0002	.0000	.0005	.0004	.0003
%RSD	.2882	6.720	2.442	3.320	.0717	.2556	.1531	.6156
#1	.3268	.0010	.0047	.0060	.0581	.2097	.2407	.0490
#2	.3259	.0009	.0048	.0064	.0580	.2101	.2414	.0486
#3	.3249	.0009	.0045	.0064	.0580	.2108	.2413	.0485

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0365**	**.0165**	F **68.74**	**.0015**	F **-.0062**	**.1342**	**.0174**	**.0286**
Stddev	.0005	.0004	.86	.0013	.0004	.0009	.0012	.0009
%RSD	1.377	2.483	1.258	81.41	7.144	.6640	6.856	3.148
#1	-.0364	.0169	69.09	.0007	-.0065	.1333	.0169	.0288
#2	-.0371	.0162	69.37	.0009	-.0057	.1341	.0165	.0276
#3	-.0361	.0163	67.75	.0030	-.0064	.1351	.0188	.0293

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.336**	**66.82**	**11.66**	**12.92**	**3.506**	**3.046**	**.0880**	**.0110**
Stddev	.009	.14	.02	.15	.037	.002	.0006	.0001
%RSD	.1050	.2021	.2101	1.141	1.057	.0544	.7206	1.347
#1	8.326	66.71	11.63	12.85	3.511	3.045	.0886	.0112
#2	8.340	66.97	11.68	13.09	3.467	3.045	.0873	.0109
#3	8.342	66.77	11.66	12.81	3.541	3.048	.0882	.0110

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.514**	**.0698**	**.2981**	**.4563**	**.3606**	**.0737**	**17.35**	**.0021**
Stddev	.002	.0004	.0004	.0033	.0140	.0002	.03	.0005
%RSD	.1456	.5449	.1482	.7283	3.874	.2218	.1645	25.84
#1	1.512	.0696	.2984	.4601	.3549	.0738	17.32	.0026
#2	1.515	.0696	.2984	.4538	.3503	.0739	17.37	.0015
#3	1.517	.0703	.2976	.4551	.3765	.0736	17.37	.0021

Zoom In Zoom Out

Sample Name: jc86180-12 Acquired: 4/19/2019 1:51:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0123**	**.9449**
Stddev	.0019	.0046
%RSD	15.12	.4907
#1	.0144	.9423
#2	.0114	.9422
#3	.0111	.9502

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98948.**	**5084.6**	**3550.3**	**7726.0**
Stddev	120.	35.4	3.0	4.6
%RSD	.12131	.69606	.08415	.05914
#1	99083.	5123.3	3547.0	7721.3
#2	98911.	5053.8	3551.4	7730.5
#3	98851.	5076.8	3552.7	7726.1

Zoom In Zoom Out

Sample Name: jc86180-13 Acquired: 4/19/2019 1:57:14 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1438**	**.0003**	**.0429**	**.1059**	F **12.24**	**.2051**	**.8564**	**7.649**
Stddev	.0005	.0000	.0002	.0001	.05	.0009	.0018	.014
%RSD	.3488	5.245	.3797	.1166	.4157	.4331	.2120	.1878
#1	.1438	.0003	.0431	.1058	12.30	.2051	.8583	7.665
#2	.1434	.0003	.0428	.1060	12.21	.2060	.8547	7.645
#3	.1444	.0003	.0428	.1058	12.21	.2042	.8562	7.637

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **-.0038**	**.0380**	F **13.17**	**.0118**	F **-.0038**	**.1722**	**.0062**	**.0165**
Stddev	.0005	.0002	.04	.0006	.0003	.0004	.0005	.0012
%RSD	12.83	.4821	.3267	5.097	7.840	.2172	8.633	6.975
#1	-.0034	.0381	13.21	.0112	-.0034	.1721	.0060	.0174
#2	-.0043	.0378	13.13	.0120	-.0040	.1719	.0058	.0170
#3	-.0037	.0381	13.16	.0124	-.0039	.1726	.0068	.0152

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.144**	**22.80**	**54.63**	**5.408**	**1.995**	**4.824**	**.0335**	**.3545**
Stddev	.025	.01	.19	.065	.029	.017	.0002	.0012
%RSD	.5947	.0575	.3435	1.204	1.427	.3457	.5911	.3313
#1	4.167	22.80	54.45	5.337	2.018	4.810	.0336	.3558
#2	4.118	22.78	54.61	5.421	1.963	4.820	.0336	.3537
#3	4.148	22.81	54.82	5.465	2.004	4.843	.0333	.3539

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.070**	**.0520**	**.0911**	**.2012**	**.0427**	**.0374**	**7.522**	**.0009**
Stddev	.005	.0012	.0005	.0012	.0006	.0001	.018	.0014
%RSD	.2572	2.266	.5261	.5910	1.333	.3763	.2447	167.1
#1	2.075	.0508	.0906	.2019	.0423	.0375	7.535	.0023
#2	2.070	.0532	.0910	.2018	.0433	.0373	7.501	.0008
#3	2.064	.0519	.0916	.1998	.0424	.0376	7.529	-.0005

Zoom In Zoom Out

Sample Name: jc86180-13 Acquired: 4/19/2019 1:57:14 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0063**	**.6696**
Stddev	.0011	.0030
%RSD	17.42	.4552
#1	.0060	.6730
#2	.0075	.6672
#3	.0054	.6684

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99272.**	**5084.4**	**3479.1**	**7956.0**
Stddev	366.	21.3	5.8	10.0
%RSD	.36856	.41932	.16787	.12551
#1	98850.	5104.2	3473.6	7944.5
#2	99489.	5087.2	3485.3	7962.7
#3	99478.	5061.9	3478.5	7960.8

Zoom In Zoom Out

Sample Name: jc86180-14 Acquired: 4/19/2019 2:02:28 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0400**	**.0002**	**.0012**	**.0006**	**.0308**	**.0493**	**.0242**	**.0051**
Stddev	.0003	.0000	.0001	.0001	.0006	.0001	.0001	.0002
%RSD	.7608	12.79	7.881	17.33	1.858	.1429	.4783	4.205
#1	.0400	.0002	.0013	.0006	.0304	.0493	.0243	.0053
#2	.0403	.0002	.0012	.0007	.0304	.0493	.0241	.0049
#3	.0397	.0001	.0011	.0005	.0314	.0494	.0242	.0050

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0052**	**.0015**	**6.525**	**-.0004**	**-.0013**	**.0149**	**.0021**	**.0047**
Stddev	.0006	.0002	.007	.0012	.0008	.0006	.0007	.0004
%RSD	12.07	14.98	.1026	316.4	61.61	3.733	32.66	8.911
#1	-.0057	.0017	6.532	.0007	-.0010	.0153	.0020	.0050
#2	-.0053	.0015	6.519	-.0001	-.0007	.0152	.0028	.0049
#3	-.0045	.0012	6.524	-.0017	-.0022	.0143	.0014	.0042

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6560**	**7.723**	**1.109**	**2.084**	**.6729**	**3.267**	**.0070**	**.0084**
Stddev	.0092	.020	.007	.070	.0079	.010	.0001	.0001
%RSD	1.405	.2525	.6790	3.357	1.170	.2984	1.225	1.393
#1	.6472	7.742	1.103	2.127	.6819	3.257	.0070	.0083
#2	.6553	7.703	1.105	2.004	.6695	3.277	.0069	.0085
#3	.6656	7.725	1.117	2.122	.6673	3.268	.0070	.0084

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.280**	**.0321**	**.0347**	**.0282**	**.0127**	**.0050**	**4.291**	**-.0007**
Stddev	.003	.0001	.0001	.0002	.0007	.0001	.011	.0016
%RSD	.2056	.2180	.3963	.7189	5.820	1.100	.2628	222.6
#1	1.279	.0320	.0346	.0281	.0118	.0051	4.294	.0010
#2	1.283	.0321	.0348	.0285	.0131	.0050	4.301	-.0010
#3	1.278	.0321	.0348	.0282	.0132	.0050	4.279	-.0022

Zoom In Zoom Out

Sample Name: jc86180-14 Acquired: 4/19/2019 2:02:28 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0019**	**.6373**
Stddev	.0004	.0010
%RSD	19.73	.1503
#1	.0021	.6367
#2	.0022	.6384
#3	.0015	.6367

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101070.**	**5125.0**	**3630.0**	**8183.6**
Stddev	279.	21.5	2.0	5.7
%RSD	.27626	.41878	.05469	.06958
#1	100830.	5100.7	3628.5	8179.1
#2	101380.	5133.1	3629.3	8181.7
#3	101010.	5141.3	3632.3	8190.0

Zoom In Zoom Out

Sample Name: jc86180-15 Acquired: 4/19/2019 2:07:51 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0031**	**-.0000**	**.0000**	**.0002**	**.0018**	**.0012**	**.0037**	**.0008**	**-.0013**
Stddev	.0001	.0000	.0002	.0002	.0002	.0003	.0001	.0002	.0001
%RSD	4.820	116.2	1095.	73.30	12.80	21.64	1.684	22.06	9.175
#1	.0029	-.0000	-.0000	.0004	.0021	.0012	.0036	.0009	-.0014
#2	.0032	-.0000	.0002	.0001	.0017	.0009	.0037	.0006	-.0014
#3	.0030	.0000	-.0001	.0002	.0016	.0014	.0037	.0010	-.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0542**	**-.0009**	**-.0018**	**.0001**	**.0009**	**.0004**	**.0573**	**1.519**
Stddev	.0001	.0002	.0012	.0013	.0005	.0012	.0012	.0061	.003
%RSD	13.98	.3501	127.8	69.59	374.7	128.4	331.8	10.67	.1951
#1	.0003	.0544	-.0011	-.0006	.0004	.0023	.0014	.0509	1.515
#2	.0004	.0541	-.0019	-.0032	-.0004	.0001	-.0010	.0631	1.521
#3	.0004	.0541	.0004	-.0017	.0004	.0004	.0007	.0580	1.520

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1105**	**.5434**	**.9481**	**3.808**	**.0028**	**.0008**	**.3579**	**.0255**	**.0056**
Stddev	.0093	.0156	.0261	.012	.0003	.0001	.0013	.0007	.0001
%RSD	8.388	2.877	2.748	.3034	10.39	10.33	.3691	2.815	1.281
#1	.1198	.5275	.9421	3.798	.0030	.0007	.3593	.0263	.0056
#2	.1105	.5587	.9255	3.806	.0029	.0008	.3578	.0248	.0057
#3	.1012	.5441	.9766	3.820	.0025	.0008	.3567	.0255	.0056

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**.0035**	**.0003**	**.9638**	**-.0013**	**.0007**	**.1511**
Stddev	.0002	.0006	.0001	.0015	.0009	.0010	.0012
%RSD	11.92	16.56	38.22	.1605	75.34	134.7	.7800
#1	.0014	.0032	.0003	.9648	-.0011	.0019	.1513
#2	.0016	.0042	.0002	.9620	-.0023	.0002	.1498
#3	.0017	.0031	.0004	.9647	-.0004	.0001	.1521

Zoom In Zoom Out

Sample Name: jc86180-15 Acquired: 4/19/2019 2:07:51 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101340.**	**5116.1**	**3629.1**	**8238.6**
Stddev	222.	40.2	5.5	12.6
%RSD	.21868	.78611	.15157	.15350
#1	101150.	5147.6	3622.7	8227.8
#2	101590.	5129.9	3632.6	8252.6
#3	101290.	5070.8	3631.9	8235.5

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 2:13:22 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.998**	**1.977**	**1.992**	**2.025**	**1.962**	**1.936**	**1.967**	**1.997**	**.2415**
Stddev	.004	.003	.018	.019	.005	.001	.003	.018	.0002
%RSD	.1932	.1291	.8981	.9389	.2671	.0477	.1522	.8786	.0800
#1	1.995	1.974	2.013	2.047	1.962	1.936	1.966	2.017	.2416
#2	1.997	1.980	1.984	2.015	1.968	1.935	1.970	1.988	.2413
#3	2.003	1.977	1.980	2.014	1.957	1.936	1.964	1.986	.2416
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.931**	**1.987**	**2.013**	**2.068**	**2.021**	**2.023**	**2.051**	**39.33**	**39.70**
Stddev	.001	.024	.018	.017	.019	.020	.019	.08	.11
%RSD	.0412	1.201	.9152	.8294	.9201	.9732	.9297	.1928	.2889
#1	1.932	2.014	2.034	2.088	2.042	2.046	2.073	39.24	39.67
#2	1.931	1.973	2.002	2.056	2.009	2.014	2.044	39.39	39.83
#3	1.931	1.974	2.002	2.061	2.011	2.010	2.036	39.35	39.60
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.36**	**38.30**	**39.65**	**40.27**	**2.084**	**2.026**	**5.217**	**2.023**	**2.031**
Stddev	.08	.23	.03	.05	.017	.019	.049	.022	.001
%RSD	.2059	.5886	.0683	.1120	.8123	.9469	.9393	1.113	.0445
#1	39.30	38.05	39.62	40.22	2.104	2.048	5.272	2.049	2.030
#2	39.45	38.47	39.67	40.31	2.076	2.016	5.200	2.008	2.032
#3	39.32	38.38	39.67	40.29	2.073	2.013	5.178	2.011	2.031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 2:13:22 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.910**	**1.981**	**1.929**	**2.060**	**2.105**	**1.973**	**2.009**
Stddev	.002	.019	.001	.021	.019	.002	.023
%RSD	.1202	.9669	.0675	1.044	.8816	.1143	1.124
#1	1.910	2.003	1.930	2.084	2.125	1.971	2.035
#2	1.913	1.973	1.928	2.044	2.101	1.975	1.992
#3	1.908	1.967	1.927	2.050	2.088	1.975	2.001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96496.**	**4997.4**	**3535.9**	**7375.1**
Stddev	242.	21.0	29.0	54.8
%RSD	.25098	.41980	.81906	.74255
#1	96514.	5011.5	3502.6	7312.0
#2	96246.	4973.3	3550.0	7403.9
#3	96729.	5007.5	3555.2	7409.5

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 2:18:25 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0001**	**-.0000**	**-.0000**	**.0003**	**-.0005**	**-.0001**	**.0001**	**-.0016**
Stddev	.0000	.0000	.0003	.0002	.0002	.0002	.0000	.0001	.0001
%RSD	17.20	68.37	771.8	6546.	60.36	30.26	74.03	77.57	5.928
#1	-.0001	-.0000	.0000	.0002	.0002	-.0004	-.0001	.0001	-.0017
#2	-.0001	-.0001	-.0003	-.0001	.0004	-.0006	-.0000	.0001	-.0016
#3	-.0001	-.0001	.0002	-.0002	.0001	-.0007	-.0000	.0003	-.0015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0001**	**.0003**	**-.0002**	**-.0011**	**-.0007**	**.0013**	**-.0084**	**.0010**
Stddev	.0002	.0002	.0004	.0004	.0011	.0005	.0014	.0122	.0035
%RSD	71.22	242.4	126.9	194.1	97.87	75.72	112.2	146.2	342.3
#1	.0003	.0001	.0008	.0002	-.0021	-.0011	.0011	-.0151	.0020
#2	.0003	-.0000	.0001	-.0005	.0000	-.0001	-.0001	.0058	.0040
#3	.0000	-.0003	.0000	-.0003	-.0012	-.0008	.0028	-.0157	-.0029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**.0033**	**.0081**	**.0243**	**.0009**	**.0002**	**.0019**	**.0000**	**.0001**
Stddev	.0105	.0272	.0027	.0188	.0001	.0002	.0007	.0005	.0001
%RSD	1390.	826.8	32.99	77.38	14.62	76.99	40.30	5073.	82.32
#1	.0004	-.0273	.0071	.0027	.0009	.0002	.0027	-.0005	.0000
#2	.0114	.0248	.0112	.0370	.0008	.0001	.0015	.0004	.0001
#3	-.0095	.0124	.0061	.0332	.0010	.0004	.0014	.0001	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 2:18:25 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0011**	**.0001**	**.0033**	**-.0008**	**.0025**	**.0095**
Stddev	.0002	.0003	.0001	.0007	.0014	.0008	.0009
%RSD	94.44	25.17	66.95	21.22	173.6	30.70	9.122
#1	.0000	.0014	.0001	.0027	-.0019	.0022	.0098
#2	-.0003	.0010	.0001	.0031	.0007	.0019	.0085
#3	-.0003	.0009	.0002	.0041	-.0012	.0034	.0102
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101350.**	**5014.9**	**3671.3**	**8283.9**
Stddev	46.	20.5	2.0	6.6
%RSD	.04582	.40894	.05381	.07970
#1	101390.	5001.0	3673.3	8291.4
#2	101350.	5038.4	3671.2	8278.9
#3	101300.	5005.2	3669.4	8281.4

Zoom In Zoom Out

Sample Name: jc86180-16 Acquired: 4/19/2019 2:23:58 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**-.0001**	**-.0001**	**.0002**	**.0014**	**.0011**	**.0033**	**.0008**	**-.0013**
Stddev	.0000	.0001	.0001	.0001	.0002	.0002	.0000	.0002	.0004
%RSD	.9223	79.68	64.40	35.48	15.12	17.48	1.219	22.28	34.29
#1	.0025	-.0000	-.0001	.0001	.0012	.0012	.0033	.0006	-.0009
#2	.0025	-.0001	-.0001	.0002	.0016	.0013	.0033	.0009	-.0017
#3	.0025	-.0001	-.0000	.0002	.0014	.0009	.0033	.0009	-.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0140**	**-.0010**	**-.0014**	**-.0006**	**-.0001**	**.0011**	**.0428**	**1.093**
Stddev	.0003	.0001	.0014	.0004	.0006	.0019	.0014	.0019	.005
%RSD	122.9	.6758	138.7	31.90	87.96	1888.	125.5	4.330	.4438
#1	-.0000	.0140	-.0016	-.0019	-.0012	.0015	.0010	.0420	1.088
#2	.0002	.0141	.0006	-.0011	-.0007	.0005	.0026	.0414	1.095
#3	.0005	.0140	-.0022	-.0011	-.0001	-.0023	-.0002	.0449	1.097

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0907**	**.4547**	**.6900**	**3.670**	**.0028**	**.0007**	**.3248**	**.0223**	**.0049**
Stddev	.0036	.0359	.0317	.017	.0003	.0001	.0006	.0004	.0001
%RSD	3.955	7.891	4.594	.4585	9.999	19.49	.1796	1.597	2.235
#1	.0889	.4507	.6804	3.651	.0031	.0005	.3241	.0226	.0051
#2	.0883	.4925	.7254	3.684	.0025	.0007	.3252	.0224	.0049
#3	.0948	.4210	.6642	3.674	.0027	.0008	.3250	.0219	.0049

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.0011**	**.0007**	**.8052**	**-.0005**	**.0025**	**.1453**
Stddev	.0003	.0004	.0000	.0013	.0001	.0016	.0007
%RSD	27.93	33.52	1.459	.1676	30.36	62.54	.4788
#1	.0009	.0013	.0007	.8044	-.0003	.0032	.1461
#2	.0010	.0007	.0007	.8044	-.0006	.0007	.1451
#3	.0015	.0014	.0007	.8067	-.0005	.0036	.1447

Zoom In Zoom Out

Sample Name: jc86180-16 Acquired: 4/19/2019 2:23:58 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101470.**	**5122.0**	**3635.7**	**8256.5**
Stddev	330.	21.3	5.5	7.4
%RSD	.32478	.41519	.15096	.08938
#1	101410.	5139.7	3631.4	8248.8
#2	101180.	5098.4	3633.8	8257.2
#3	101830.	5128.0	3641.8	8263.5

Zoom In Zoom Out

Sample Name: jc86180-17 Acquired: 4/19/2019 2:29:30 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0043**	**.0000**	**.0005**	**.0002**	**.0015**	**.0016**	**.0038**	**.0017**	**-.0015**
Stddev	.0001	.0001	.0001	.0002	.0002	.0000	.0001	.0002	.0002
%RSD	2.394	419.6	13.18	106.8	13.85	1.851	1.825	9.367	15.11
#1	.0043	.0000	.0004	.0001	.0017	.0016	.0039	.0019	-.0016
#2	.0044	-.0000	.0004	.0001	.0013	.0016	.0038	.0016	-.0015
#3	.0042	.0000	.0005	.0004	.0014	.0016	.0038	.0016	-.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0325**	**-.0005**	**-.0013**	**.0011**	**.0014**	**.0016**	**.0803**	**2.075**
Stddev	.0000	.0004	.0006	.0010	.0007	.0008	.0013	.0104	.012
%RSD	12.95	1.196	117.0	79.52	59.25	60.97	81.37	13.01	.5762
#1	.0003	.0324	-.0011	-.0020	.0005	.0009	.0008	.0724	2.066
#2	.0004	.0330	.0001	-.0016	.0011	.0023	.0030	.0763	2.089
#3	.0004	.0322	-.0005	-.0001	.0018	.0008	.0009	.0921	2.071

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1346**	**.4763**	**.3982**	**3.415**	**.0029**	**.0005**	**.3430**	**.0246**	**.0055**
Stddev	.0059	.0528	.0356	.007	.0004	.0000	.0036	.0004	.0001
%RSD	4.402	11.09	8.932	.1979	13.44	7.887	1.043	1.716	1.304
#1	.1412	.4516	.3854	3.418	.0034	.0005	.3406	.0246	.0056
#2	.1298	.5369	.3708	3.420	.0027	.0005	.3471	.0249	.0055
#3	.1328	.4404	.4384	3.407	.0027	.0005	.3414	.0241	.0054

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**.0011**	**.0015**	**.7245**	**-.0013**	**.0002**	**.1545**
Stddev	.0003	.0007	.0002	.0069	.0008	.0003	.0021
%RSD	12.75	61.53	10.87	.9522	60.45	143.0	1.376
#1	.0024	.0018	.0014	.7221	-.0005	-.0001	.1538
#2	.0030	.0010	.0014	.7323	-.0013	.0003	.1568
#3	.0025	.0005	.0017	.7192	-.0021	.0005	.1528

Zoom In Zoom Out

Sample Name: jc86180-17 Acquired: 4/19/2019 2:29:30 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101660.**	**5151.3**	**3628.2**	**8232.5**
Stddev	34.	27.4	28.0	57.5
%RSD	.03352	.53263	.77119	.69902
#1	101630.	5182.4	3643.1	8264.0
#2	101670.	5130.5	3595.9	8166.1
#3	101690.	5141.1	3645.6	8267.5

Zoom In Zoom Out

Sample Name: jc86180-18 Acquired: 4/19/2019 2:35:01 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0252**	**-.0000**	**.0016**	**.0003**	**.0019**	**.0049**	**.0042**	**.0047**	**-.0015**
Stddev	.0002	.0001	.0002	.0003	.0000	.0003	.0001	.0002	.0004
%RSD	.6750	670.9	9.808	98.25	2.517	6.446	1.467	4.254	25.13
#1	.0254	.0001	.0016	.0001	.0019	.0052	.0042	.0049	-.0019
#2	.0250	-.0000	.0017	.0002	.0020	.0048	.0043	.0046	-.0016
#3	.0253	-.0001	.0014	.0006	.0020	.0046	.0042	.0045	-.0011

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0269**	**.0001**	**-.0008**	**.0399**	**.0015**	**.0024**	**.1102**	**1.965**
Stddev	.0003	.0000	.0011	.0001	.0009	.0011	.0009	.0163	.008
%RSD	168.1	.0113	1203.	16.61	2.351	73.89	38.19	14.76	.4104
#1	-.0000	.0269	.0007	-.0007	.0399	.0005	.0030	.0915	1.957
#2	.0005	.0269	.0006	-.0009	.0409	.0027	.0014	.1183	1.973
#3	.0000	.0269	-.0011	-.0007	.0390	.0014	.0029	.1208	1.965

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1916**	**.5391**	**.3643**	**3.350**	**.0030**	**.0006**	**.4418**	**.0250**	**.0072**
Stddev	.0079	.0371	.0247	.009	.0004	.0002	.0018	.0007	.0001
%RSD	4.119	6.884	6.770	.2625	13.90	26.90	.4074	2.629	1.021
#1	.1960	.5607	.3483	3.341	.0031	.0005	.4412	.0244	.0073
#2	.1825	.5603	.3927	3.359	.0034	.0006	.4438	.0257	.0072
#3	.1963	.4962	.3519	3.351	.0026	.0008	.4403	.0250	.0071

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040**	**.0007**	**.0013**	**1.162**	**-.0009**	**.0001**	**.1387**
Stddev	.0002	.0006	.0001	.001	.0015	.0010	.0008
%RSD	3.994	90.39	5.233	.0526	172.3	772.4	.5900
#1	.0038	.0007	.0013	1.161	-.0010	.0008	.1396
#2	.0041	.0001	.0013	1.162	.0007	.0005	.1385
#3	.0041	.0013	.0014	1.163	-.0024	-.0010	.1381

Zoom In Zoom Out

Sample Name: jc86180-18 Acquired: 4/19/2019 2:35:01 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101920.**	**5130.3**	**3645.2**	**8275.4**
Stddev	476.	15.1	3.0	2.1
%RSD	.46667	.29353	.08171	.02510
#1	101970.	5119.0	3646.4	8273.6
#2	101430.	5147.4	3641.8	8274.9
#3	102370.	5124.5	3647.4	8277.7

Zoom In Zoom Out

Sample Name: jc86180-19 Acquired: 4/19/2019 2:40:31 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0156**	**-.0001**	**.0003**	**.0003**	**.0026**	**.0111**	**.0108**	**.0026**	**-.0016**
Stddev	.0001	.0001	.0001	.0001	.0001	.0001	.0000	.0004	.0004
%RSD	.6920	106.5	27.01	29.86	5.117	.9442	.4326	14.62	26.03
#1	.0155	-.0002	.0003	.0004	.0026	.0110	.0108	.0023	-.0014
#2	.0156	-.0000	.0003	.0003	.0024	.0112	.0108	.0025	-.0013
#3	.0157	-.0000	.0004	.0002	.0027	.0111	.0109	.0030	-.0021

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**.0429**	**.0006**	**-.0019**	**.0066**	**.0012**	**.0027**	**.2565**	**2.589**
Stddev	.0002	.0001	.0007	.0008	.0004	.0004	.0005	.0115	.004
%RSD	23.87	.1697	125.3	45.01	5.818	31.20	18.73	4.498	.1568
#1	.0007	.0429	.0002	-.0009	.0069	.0009	.0029	.2474	2.588
#2	.0006	.0428	.0014	-.0023	.0061	.0017	.0031	.2695	2.594
#3	.0010	.0428	.0001	-.0024	.0067	.0011	.0021	.2526	2.586

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7915**	**.7532**	**.4091**	**3.492**	**.0047**	**.0010**	**.7556**	**.0247**	**.0108**
Stddev	.0045	.0357	.0040	.017	.0005	.0002	.0014	.0003	.0001
%RSD	.5664	4.738	.9858	.4930	11.23	21.37	.1893	1.245	1.301
#1	.7936	.7784	.4096	3.510	.0048	.0012	.7562	.0250	.0109
#2	.7946	.7688	.4129	3.492	.0042	.0008	.7540	.0248	.0108
#3	.7864	.7123	.4049	3.475	.0052	.0010	.7567	.0244	.0106

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0121**	**.0010**	**.0021**	**1.144**	**-.0011**	**.0001**	**.1978**
Stddev	.0002	.0002	.0002	.005	.0009	.0024	.0015
%RSD	2.040	22.32	10.22	.4458	81.74	2148.	.7564
#1	.0119	.0010	.0019	1.140	-.0007	-.0016	.1968
#2	.0121	.0012	.0023	1.150	-.0021	.0029	.1995
#3	.0124	.0008	.0022	1.143	-.0004	-.0009	.1970

Zoom In Zoom Out

Sample Name: jc86180-19 Acquired: 4/19/2019 2:40:31 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101760.**	**5145.5**	**3639.7**	**8267.8**
Stddev	240.	25.6	3.8	10.9
%RSD	.23581	.49686	.10482	.13129
#1	101560.	5156.1	3644.0	8278.3
#2	102030.	5116.3	3636.9	8256.7
#3	101700.	5164.1	3638.1	8268.5

Zoom In Zoom Out

Sample Name: jc86180-20 Acquired: 4/19/2019 2:46:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0325**	**.0000**	**.0005**	**.0002**	**.0035**	**.0103**	**.0090**	**.0034**	**-.0016**
Stddev	.0003	.0000	.0002	.0002	.0003	.0002	.0000	.0004	.0000
%RSD	1.066	716.7	39.71	101.6	7.394	1.703	.5075	11.97	2.540
#1	.0328	.0000	.0003	.0002	.0036	.0103	.0090	.0035	-.0015
#2	.0326	-.0000	.0007	.0004	.0037	.0105	.0091	.0037	-.0016
#3	.0321	.0000	.0006	-.0000	.0032	.0101	.0090	.0029	-.0016

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0498**	**.0008**	**-.0015**	**.0302**	**.0017**	**.0032**	**.2147**	**2.565**
Stddev	.0003	.0000	.0011	.0005	.0003	.0022	.0006	.0141	.012
%RSD	58.35	.0779	147.3	32.41	.8412	132.0	20.02	6.559	.4744
#1	.0005	.0498	-.0001	-.0018	.0303	.0012	.0039	.2007	2.554
#2	.0009	.0498	.0003	-.0009	.0299	-.0003	.0026	.2289	2.578
#3	.0003	.0498	.0020	-.0017	.0303	.0041	.0032	.2144	2.564

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7691**	**.6837**	**.3988**	**4.046**	**.0044**	**.0007**	**.6956**	**.0259**	**.0099**
Stddev	.0060	.0405	.0317	.009	.0011	.0001	.0003	.0004	.0001
%RSD	.7853	5.927	7.949	.2343	24.43	20.71	.0446	1.667	1.396
#1	.7718	.7204	.3661	4.049	.0051	.0009	.6952	.0256	.0097
#2	.7622	.6906	.4294	4.035	.0049	.0006	.6958	.0264	.0100
#3	.7733	.6402	.4008	4.054	.0032	.0007	.6957	.0258	.0099

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0128**	**.0006**	**.0023**	**1.341**	**-.0007**	**-.0008**	**.3199**
Stddev	.0001	.0004	.0002	.004	.0006	.0012	.0017
%RSD	.4244	74.92	6.915	.3323	81.99	150.3	.5400
#1	.0128	.0011	.0024	1.340	-.0000	-.0011	.3180
#2	.0127	.0004	.0021	1.337	-.0011	.0005	.3203
#3	.0128	.0003	.0024	1.346	-.0011	-.0019	.3214

Zoom In Zoom Out

Sample Name: jc86180-20 Acquired: 4/19/2019 2:46:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101810.**	**5154.2**	**3644.9**	**8261.4**
Stddev	278.	14.2	4.3	7.3
%RSD	.27267	.27647	.11768	.08827
#1	102040.	5140.7	3640.2	8253.2
#2	101500.	5169.1	3648.6	8267.1
#3	101870.	5152.8	3645.9	8263.9

Zoom In Zoom Out

Sample Name: mp14276-b1 Acquired: 4/19/2019 2:51:26 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.933**	**1.913**	**1.912**	**1.928**	**1.888**	**1.869**	**1.897**	**1.899**
Stddev	.002	.001	.002	.001	.006	.001	.004	.001
%RSD	.0951	.0704	.0854	.0723	.3348	.0312	.1830	.0286
#1	1.931	1.912	1.913	1.927	1.887	1.868	1.896	1.899
#2	1.935	1.915	1.912	1.929	1.883	1.870	1.893	1.900
#3	1.933	1.913	1.910	1.926	1.895	1.869	1.900	1.899

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2414**	**1.848**	**1.917**	**1.970**	**2.018**	**1.937**	**1.928**	**2.021**
Stddev	.0007	.003	.002	.003	.002	.004	.003	.002
%RSD	.2728	.1394	.0999	.1466	.0733	.1982	.1460	.0777
#1	.2422	1.848	1.919	1.969	2.020	1.934	1.931	2.023
#2	.2412	1.845	1.918	1.967	2.018	1.942	1.926	2.020
#3	.2409	1.850	1.915	1.973	2.017	1.935	1.928	2.021

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.66**	**24.06**	**23.91**	**23.04**	**23.84**	**24.23**	**1.935**	**1.978**
Stddev	.03	.02	.03	.07	.04	.04	.002	.002
%RSD	.1455	.0655	.1052	.3062	.1831	.1710	.1095	.0997
#1	23.69	24.07	23.94	22.96	23.84	24.23	1.937	1.979
#2	23.66	24.07	23.89	23.10	23.88	24.27	1.934	1.976
#3	23.62	24.04	23.91	23.04	23.79	24.19	1.933	1.980

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1095**	**2.027**	**1.959**	**1.883**	**1.365**	**1.904**	F **-.0588**	**.0015**
Stddev	.0007	.005	.002	.002	.002	.001	.0006	.0018
%RSD	.6752	.2328	.0909	.1247	.1319	.0437	1.037	122.5
#1	.1099	2.026	1.959	1.884	1.364	1.904	-.0593	.0000
#2	.1099	2.032	1.961	1.880	1.364	1.903	-.0582	.0009
#3	.1086	2.023	1.957	1.885	1.367	1.905	-.0590	.0035

Zoom In Zoom Out

Sample Name: mp14276-b1 Acquired: 4/19/2019 2:51:26 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0012**	**1.927**
Stddev	.0012	.001
%RSD	103.8	.0713
#1	-.0002	1.927
#2	-.0025	1.929
#3	-.0008	1.926

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98592.**	**5064.5**	**3594.5**	**7633.2**
Stddev	228.	26.8	3.9	6.9
%RSD	.23169	.52971	.10940	.08997
#1	98683.	5033.6	3591.5	7629.5
#2	98761.	5079.1	3593.1	7629.0
#3	98332.	5080.9	3598.9	7641.1

Zoom In Zoom Out

Sample Name: mp14276-mb1 Acquired: 4/19/2019 2:56:29 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0000**	**.0002**	**-.0000**	**.0012**	**-.0007**	**.0002**	**.0004**	**-.0015**
Stddev	.0003	.0001	.0002	.0002	.0004	.0016	.0000	.0001	.0002
%RSD	515.2	14980.	83.98	923.7	30.11	224.2	14.84	24.78	16.17
#1	.0003	-.0001	.0001	-.0002	.0008	-.0025	.0001	.0003	-.0012
#2	-.0001	-.0001	.0002	-.0001	.0016	.0003	.0002	.0005	-.0017
#3	-.0003	.0001	.0005	.0002	.0011	.0002	.0002	.0004	-.0015

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0048**	**.0005**	**.0003**	**-.0009**	**-.0010**	**-.0003**	**.0046**	**.0340**
Stddev	.0001	.0000	.0008	.0005	.0006	.0014	.0007	.0138	.0028
%RSD	64.92	.6858	161.8	173.6	69.50	142.6	219.6	298.0	8.111
#1	.0002	.0048	.0002	.0001	-.0014	-.0001	-.0003	-.0113	.0339
#2	.0002	.0047	-.0001	.0008	-.0010	-.0002	.0004	.0127	.0369
#3	.0000	.0047	.0014	-.0001	-.0002	-.0026	-.0010	.0125	.0314

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0268**	**-.0111**	**.0008**	**.0456**	**.0008**	**.0012**	**.0077**	**.0224**	**.0001**
Stddev	.0023	.0125	.0177	.0013	.0001	.0001	.0007	.0003	.0001
%RSD	8.686	112.7	2275.	2.936	8.063	10.00	9.072	1.247	117.8
#1	.0272	-.0208	.0108	.0443	.0007	.0012	.0085	.0227	.0003
#2	.0289	-.0155	-.0197	.0456	.0009	.0011	.0073	.0223	.0001
#3	.0243	.0030	.0112	.0470	.0008	.0013	.0072	.0222	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0080**	**.0005**	**.0111**	**-.0009**	**.0007**	**.0314**
Stddev	.0002	.0015	.0002	.0012	.0021	.0007	.0005
%RSD	51.09	18.32	34.74	10.41	223.4	103.4	1.445
#1	.0003	.0094	.0006	.0119	-.0006	.0014	.0317
#2	.0001	.0082	.0003	.0117	.0010	.0002	.0309
#3	.0005	.0065	.0004	.0098	-.0032	.0003	.0317

Zoom In Zoom Out

Sample Name: mp14276-mb1 Acquired: 4/19/2019 2:56:29 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	*****	**5112.6**	**3684.8**	**8339.4**
Stddev	-----	43.0	2.4	1.2
%RSD	-----	.84048	.06446	.01406
#1	-----	5067.2	3683.3	8338.0
#2	100470.	5152.7	3687.5	8339.9
#3	102490.	5117.8	3683.5	8340.2

Zoom In Zoom Out

Sample Name: mp14276-s1 Acquired: 4/19/2019 3:02:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.408**	**1.839**	**1.871**	**1.954**	**2.384**	**2.511**	**3.085**	**2.044**	**.2453**
Stddev	.003	.001	.002	.001	.008	.001	.009	.002	.0002
%RSD	.1116	.0712	.0948	.0694	.3250	.0358	.2868	.0765	.0908
#1	2.410	1.841	1.871	1.955	2.378	2.512	3.076	2.046	.2452
#2	2.405	1.839	1.869	1.954	2.393	2.510	3.092	2.043	.2455
#3	2.410	1.838	1.873	1.952	2.383	2.512	3.088	2.044	.2451

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.992**	**3.491**	**1.972**	**1.930**	**2.679**	**1.869**	**1.202**	**115.9**	**45.54**
Stddev	.004	.002	.001	.002	.003	.004	.005	.1	.10
%RSD	.1791	.0454	.0503	.1231	.1063	.2142	.4379	.0833	.2090
#1	1.988	3.490	1.973	1.932	2.680	1.871	1.205	115.9	45.60
#2	1.994	3.492	1.971	1.931	2.676	1.865	1.196	115.9	45.43
#3	1.994	3.493	1.972	1.927	2.682	1.872	1.204	116.1	45.60

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**149.4**	**54.75**	**44.30**	**47.47**	**1.955**	**1.871**	**2.083**	**2.065**	**2.097**
Stddev	.3	.11	.03	.05	.002	.000	.014	.005	.003
%RSD	.1935	.2027	.0632	.1093	.0921	.0137	.6489	.2571	.1221
#1	149.8	54.87	44.33	47.51	1.956	1.871	2.089	2.059	2.100
#2	149.3	54.75	44.28	47.42	1.956	1.871	2.092	2.069	2.094
#3	149.3	54.65	44.29	47.50	1.953	1.870	2.067	2.067	2.097

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.207**	**1.053**	**1.913**	**58.39**	**.0083**	**.1232**	**5.331**
Stddev	.009	.001	.004	.01	.0019	.0011	.002
%RSD	.2066	.1223	.1870	.0213	22.49	.9211	.0324
#1	4.197	1.054	1.909	58.38	.0104	.1232	5.329
#2	4.213	1.052	1.912	58.38	.0070	.1220	5.331
#3	4.212	1.052	1.916	58.40	.0073	.1243	5.332

Zoom In Zoom Out

Sample Name: mp14276-s1 Acquired: 4/19/2019 3:02:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99656.**	**5271.8**	**3641.2**	**7344.5**
Stddev	128.	11.4	4.5	12.9
%RSD	.12845	.21555	.12325	.17588
#1	99802.	5268.0	3636.1	7329.8
#2	99564.	5284.6	3643.0	7349.7
#3	99603.	5262.8	3644.5	7354.0

Zoom In Zoom Out

Sample Name: mp14276-s2 Acquired: 4/19/2019 3:07:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.444**	**1.862**	**1.892**	**1.976**	**2.439**	**2.572**	**3.134**	**2.071**	**.2500**
Stddev	.003	.006	.002	.002	.015	.013	.018	.002	.0011
%RSD	.1144	.3049	.0939	.0804	.6291	.4977	.5721	.1006	.4498
#1	2.442	1.857	1.894	1.978	2.423	2.560	3.118	2.073	.2490
#2	2.443	1.860	1.892	1.976	2.453	2.585	3.154	2.070	.2512
#3	2.447	1.868	1.890	1.975	2.441	2.570	3.131	2.070	.2497

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.019**	**3.504**	**1.997**	**1.951**	**2.725**	**1.900**	**1.200**	**118.5**	**43.87**
Stddev	.011	.008	.003	.006	.003	.006	.003	.1	.10
%RSD	.5185	.2312	.1715	.3132	.1149	.3347	.2047	.1120	.2279
#1	2.010	3.512	2.000	1.958	2.726	1.908	1.203	118.6	43.89
#2	2.030	3.496	1.997	1.946	2.721	1.895	1.199	118.3	43.77
#3	2.016	3.504	1.993	1.950	2.727	1.899	1.198	118.4	43.97

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**151.9**	**55.78**	**45.40**	**47.67**	**1.989**	**1.893**	**2.368**	**2.099**	**2.108**
Stddev	.6	.04	.15	.08	.002	.003	.012	.004	.004
%RSD	.3859	.0804	.3199	.1765	.0768	.1698	.4912	.1935	.1884
#1	151.9	55.83	45.34	47.67	1.990	1.897	2.379	2.103	2.104
#2	151.3	55.74	45.30	47.59	1.990	1.892	2.369	2.095	2.109
#3	152.4	55.77	45.57	47.76	1.987	1.891	2.356	2.098	2.111

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.348**	**1.113**	**1.932**	**59.20**	**.0080**	**.1293**	**5.421**
Stddev	.025	.002	.011	.15	.0012	.0009	.017
%RSD	.5760	.2149	.5783	.2568	14.33	.7216	.3091
#1	4.325	1.115	1.922	59.38	.0082	.1298	5.438
#2	4.375	1.111	1.944	59.11	.0068	.1299	5.420
#3	4.345	1.113	1.929	59.12	.0091	.1283	5.405

Zoom In Zoom Out

Sample Name: mp14276-s2 Acquired: 4/19/2019 3:07:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99098.**	**5287.0**	**3630.8**	**7324.4**
Stddev	454.	42.1	3.0	7.0
%RSD	.45839	.79594	.08389	.09514
#1	99481.	5264.5	3629.8	7326.5
#2	98596.	5335.5	3628.3	7316.7
#3	99217.	5260.9	3634.2	7330.1

Zoom In Zoom Out

Sample Name: jc86246-7 Acquired: 4/19/2019 3:12:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4674**	**.0041**	**.0151**	**.0489**	**.6288**	**.6809**	**1.340**	**.1820**	**.0130**
Stddev	.0010	.0000	.0001	.0001	.0002	.0014	.001	.0004	.0006
%RSD	.2239	1.191	.7333	.1500	.0386	.2118	.0872	.2123	4.380
#1	.4672	.0041	.0149	.0489	.6286	.6820	1.339	.1824	.0133
#2	.4685	.0040	.0151	.0489	.6291	.6814	1.340	.1818	.0133
#3	.4664	.0041	.0151	.0490	.6288	.6793	1.341	.1817	.0123

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1888**	**1.829**	**.0654**	**-.0003**	**.8824**	**.0021**	**-.0002**	**72.12**	**20.82**
Stddev	.0003	.004	.0003	.0012	.0029	.0011	.0020	.09	.04
%RSD	.1793	.1977	.4805	385.3	.3343	51.09	1204.	.1267	.2140
#1	.1892	1.827	.0652	.0002	.8824	.0017	.0017	72.17	20.85
#2	.1886	1.833	.0653	-.0017	.8853	.0013	-.0000	72.17	20.84
#3	.1887	1.826	.0658	.0006	.8794	.0033	-.0022	72.01	20.77

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**133.6**	**32.30**	**14.44**	**25.44**	**.1190**	**.0146**	**1.280**	**.2349**	**.1948**
Stddev	.3	.09	.07	.04	.0004	.0001	.002	.0014	.0003
%RSD	.2435	.2787	.5005	.1663	.2965	.7722	.1534	.6063	.1305
#1	133.8	32.37	14.44	25.45	.1191	.0147	1.282	.2337	.1945
#2	133.7	32.32	14.52	25.47	.1193	.0146	1.281	.2365	.1950
#3	133.2	32.20	14.37	25.39	.1186	.0145	1.278	.2345	.1948

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.204**	**.0107**	**.0697**	**63.97**	**.0062**	**.1210**	**3.885**
Stddev	.001	.0009	.0000	.12	.0008	.0010	.007
%RSD	.0584	8.114	.0447	.1906	12.61	.8423	.1879
#1	2.205	.0100	.0697	63.96	.0065	.1220	3.886
#2	2.202	.0116	.0697	64.09	.0068	.1200	3.892
#3	2.204	.0103	.0697	63.85	.0053	.1210	3.877

Zoom In Zoom Out

Sample Name: jc86246-7 Acquired: 4/19/2019 3:12:00 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102380.**	**5353.9**	**3711.0**	**7636.0**
Stddev	225.	25.7	5.8	4.6
%RSD	.22001	.48053	.15666	.06009
#1	102390.	5346.4	3717.7	7641.3
#2	102600.	5332.7	3708.2	7633.8
#3	102150.	5382.5	3707.2	7633.0

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 3:17:15 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.983**	**1.962**	**1.966**	**2.008**	**1.955**	**1.918**	**1.955**	**1.974**	**.2387**
Stddev	.005	.009	.002	.002	.003	.005	.003	.001	.0003
%RSD	.2574	.4480	.1220	.1174	.1395	.2415	.1424	.0547	.1346
#1	1.989	1.971	1.967	2.007	1.957	1.912	1.958	1.973	.2391
#2	1.980	1.953	1.963	2.006	1.952	1.921	1.952	1.975	.2386
#3	1.980	1.961	1.968	2.010	1.955	1.919	1.954	1.974	.2385
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.916**	**1.967**	**1.995**	**2.044**	**2.006**	**2.007**	**2.034**	**38.86**	**39.34**
Stddev	.003	.004	.006	.005	.001	.004	.007	.11	.11
%RSD	.1548	.2266	.3092	.2666	.0404	.2265	.3227	.2714	.2696
#1	1.919	1.963	2.001	2.044	2.005	2.004	2.037	38.91	39.45
#2	1.914	1.972	1.989	2.039	2.007	2.004	2.027	38.93	39.33
#3	1.915	1.967	1.995	2.050	2.006	2.012	2.039	38.74	39.24
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.09**	**37.89**	**39.51**	**39.94**	**2.067**	**2.004**	**5.169**	**2.006**	**2.021**
Stddev	.24	.26	.20	.12	.004	.003	.014	.003	.008
%RSD	.6213	.6949	.5015	.3003	.1796	.1263	.2761	.1337	.3906
#1	39.37	38.19	39.73	40.08	2.067	2.003	5.177	2.004	2.030
#2	38.92	37.76	39.40	39.88	2.063	2.002	5.153	2.005	2.014
#3	38.98	37.72	39.38	39.87	2.070	2.006	5.178	2.009	2.019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 3:17:15 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.894**	**1.961**	**1.913**	**2.046**	**2.085**	**1.958**	**1.989**
Stddev	.003	.002	.002	.001	.007	.007	.009
%RSD	.1488	.0873	.0937	.0582	.3600	.3533	.4414
#1	1.897	1.961	1.914	2.046	2.089	1.966	1.995
#2	1.892	1.959	1.914	2.044	2.076	1.954	1.979
#3	1.892	1.963	1.911	2.047	2.090	1.955	1.994
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**96955.**	**5022.4**	**3564.1**	**7426.8**
Stddev	186.	14.0	5.1	8.7
%RSD	.19151	.27816	.14250	.11751
#1	96745.	5008.0	3562.6	7426.9
#2	97096.	5035.9	3569.8	7435.4
#3	97024.	5023.3	3560.0	7418.0

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 3:22:18 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0001**	**-.0002**	**.0004**	**.0002**	**-.0007**	**-.0000**	**-.0001**	**-.0014**
Stddev	.0003	.0001	.0000	.0002	.0002	.0002	.0001	.0003	.0002
%RSD	84.69	201.5	23.37	54.93	79.14	21.40	115.6	345.8	12.91
#1	-.0000	-.0002	-.0001	.0003	.0003	-.0008	.0000	-.0001	-.0012
#2	-.0004	.0000	-.0002	.0002	.0003	-.0008	-.0001	.0002	-.0014
#3	-.0006	-.0000	-.0002	.0006	.0000	-.0006	-.0001	-.0003	-.0015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0002**	**-.0003**	**.0001**	**-.0003**	**-.0003**	**-.0001**	**.0098**	**.0015**
Stddev	.0002	.0001	.0008	.0005	.0005	.0016	.0008	.0119	.0017
%RSD	2068.	43.56	226.3	470.7	203.1	560.1	1613.	121.7	118.6
#1	-.0001	-.0002	-.0007	.0001	.0003	-.0018	-.0008	.0004	.0034
#2	-.0001	-.0002	.0005	.0006	-.0004	-.0005	-.0002	.0232	.0009
#3	.0003	-.0001	-.0008	-.0004	-.0007	.0014	.0009	.0057	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0015**	**-.0079**	**.0587**	**.0278**	**.0017**	**.0001**	**.0010**	**.0001**	**.0000**
Stddev	.0048	.0212	.0105	.0026	.0002	.0000	.0007	.0003	.0001
%RSD	319.3	267.0	17.82	9.307	9.503	37.14	70.14	539.3	280.4
#1	.0041	.0087	.0683	.0308	.0017	.0001	.0016	.0001	.0002
#2	-.0045	-.0318	.0603	.0262	.0019	.0001	.0012	-.0003	-.0001
#3	-.0042	-.0007	.0476	.0263	.0016	.0001	.0002	.0004	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 3:22:18 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0027**	**.0002**	**.0045**	**-.0009**	**.0033**	**.0111**
Stddev	.0005	.0003	.0000	.0039	.0007	.0007	.0003
%RSD	252.0	11.06	28.16	87.27	86.95	20.28	3.011
#1	.0003	.0030	.0001	.0091	-.0016	.0030	.0108
#2	-.0005	.0027	.0002	.0025	-.0001	.0028	.0114
#3	-.0004	.0024	.0002	.0020	-.0008	.0040	.0112
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101820.**	**5046.7**	**3674.0**	**8280.1**
Stddev	273.	12.8	4.1	13.9
%RSD	.26794	.25300	.11218	.16845
#1	101680.	5035.4	3674.7	8282.0
#2	102130.	5060.5	3669.5	8265.4
#3	101640.	5044.1	3677.6	8293.1

Zoom In Zoom Out

Sample Name: mp14276-sd1 Acquired: 4/19/2019 3:27:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4818**	**.0042**	**.0153**	**.0499**	**.6581**	**.6859**	**1.414**	**.1852**	**.0065**
Stddev	.0111	.0001	.0010	.0008	.0121	.0131	.023	.0005	.0016
%RSD	2.311	2.364	6.745	1.615	1.832	1.903	1.629	.2749	25.40
#1	.4691	.0041	.0142	.0506	.6662	.6935	1.426	.1855	.0055
#2	.4899	.0041	.0162	.0490	.6639	.6934	1.429	.1846	.0056
#3	.4864	.0043	.0154	.0502	.6443	.6708	1.387	.1855	.0084

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1956**	**1.965**	**.0685**	**.0014**	**.8988**	**.0067**	**.0010**	**74.73**	**22.17**
Stddev	.0012	.005	.0024	.0006	.0075	.0099	.0007	1.72	.48
%RSD	.6339	.2452	3.462	42.69	.8396	149.2	75.30	2.301	2.149
#1	.1955	1.970	.0685	.0007	.8976	.0154	.0018	72.75	21.62
#2	.1968	1.961	.0661	.0016	.8918	.0088	.0004	75.63	22.42
#3	.1944	1.965	.0709	.0018	.9068	-.0042	.0008	75.81	22.47

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**144.1**	**33.67**	**14.66**	**26.14**	**.1232**	**.0151**	**1.351**	**.2513**	**.2013**
Stddev	3.7	.65	.30	.47	.0039	.0005	.006	.0013	.0044
%RSD	2.554	1.935	2.028	1.797	3.168	3.450	.4291	.5229	2.177
#1	139.9	32.93	14.32	25.60	.1239	.0155	1.354	.2528	.1963
#2	146.2	33.98	14.79	26.48	.1189	.0154	1.354	.2503	.2033
#3	146.4	34.12	14.87	26.34	.1266	.0145	1.344	.2508	.2043

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.289**	**.0194**	**.0721**	**65.19**	**-.0054**	**.1308**	**4.045**
Stddev	.042	.0043	.0016	.17	.0051	.0135	.008
%RSD	1.853	22.20	2.251	.2656	94.74	10.31	.1896
#1	2.312	.0244	.0730	65.11	-.0026	.1165	4.044
#2	2.315	.0169	.0732	65.38	-.0113	.1433	4.052
#3	2.240	.0169	.0703	65.06	-.0023	.1325	4.037

Zoom In Zoom Out

Sample Name: mp14276-sd1 Acquired: 4/19/2019 3:27:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102870.**	**5205.9**	**3718.7**	**8034.4**
Stddev	1458.	99.2	3.9	12.3
%RSD	1.4170	1.9062	.10537	.15289
#1	101970.	5316.9	3716.4	8027.9
#2	102090.	5125.7	3723.2	8048.5
#3	104550.	5175.3	3716.4	8026.7

Zoom In Zoom Out

Sample Name: jc86246-1 Acquired: 4/19/2019 3:33:07 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3886**	**.0038**	**.0093**	**.0480**	**.5216**	**.5183**	**1.595**	**.1599**	**.0056**
Stddev	.0006	.0002	.0003	.0005	.0441	.0424	.130	.0005	.0029
%RSD	.1463	3.944	2.760	1.013	8.451	8.187	8.173	.3248	51.80
#1	.3892	.0037	.0091	.0480	.4917	.4898	1.510	.1604	.0076
#2	.3881	.0040	.0092	.0474	.5723	.5671	1.745	.1598	.0023
#3	.3885	.0038	.0096	.0484	.5009	.4981	1.530	.1594	.0070

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1795**	**1.309**	**.0720**	**-.0010**	**.6048**	**.0024**	**-.0007**	**65.29**	**25.14**
Stddev	.0150	.003	.0012	.0015	.0019	.0016	.0024	.07	.11
%RSD	8.375	.2422	1.707	150.9	.3083	68.73	325.3	.1004	.4286
#1	.1682	1.313	.0718	-.0023	.6068	.0037	.0000	65.25	25.16
#2	.1966	1.308	.0734	-.0012	.6031	.0029	-.0035	65.25	25.02
#3	.1737	1.307	.0710	.0006	.6043	.0006	.0012	65.36	25.24

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**129.4**	**29.80**	**13.52**	**23.26**	**.1115**	**.0104**	**1.360**	**.1723**	**.2014**
Stddev	.3	.19	.01	.03	.0005	.0001	.009	.0004	.0001
%RSD	.2596	.6364	.1035	.1139	.4597	.6352	.6749	.2312	.0739
#1	129.5	29.91	13.53	23.27	.1114	.0104	1.370	.1724	.2012
#2	129.0	29.58	13.51	23.23	.1110	.0104	1.351	.1727	.2014
#3	129.6	29.91	13.53	23.28	.1120	.0103	1.360	.1719	.2015

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.110**	**.0076**	**.0694**	**62.21**	**.0051**	**.1244**	**3.241**
Stddev	.173	.0007	.0050	.19	.0008	.0008	.009
%RSD	8.222	8.669	7.238	.2976	14.90	.6274	.2850
#1	1.995	.0080	.0657	62.34	.0043	.1236	3.250
#2	2.310	.0068	.0751	62.28	.0058	.1245	3.242
#3	2.026	.0080	.0672	62.00	.0053	.1251	3.231

Zoom In Zoom Out

Sample Name: jc86246-1 Acquired: 4/19/2019 3:33:07 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98474.**	**5345.3**	**3706.8**	**7632.5**
Stddev	6577.	43.1	6.9	16.7
%RSD	6.6794	.80686	.18586	.21855
#1	102690.	5346.9	3699.9	7614.7
#2	90895.	5387.6	3706.8	7635.0
#3	101830.	5301.3	3713.7	7647.8

Zoom In Zoom Out

Sample Name: jc86246-2 Acquired: 4/19/2019 3:38:22 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2912**	**.0027**	**.0059**	**.0353**	**.3213**	**.3514**	**1.002**	**.1123**	**.0054**
Stddev	.0015	.0001	.0001	.0005	.0009	.0013	.001	.0006	.0005
%RSD	.5205	2.554	1.703	1.452	.2915	.3669	.0922	.5008	9.308
#1	.2897	.0027	.0058	.0348	.3206	.3522	1.003	.1127	.0048
#2	.2912	.0026	.0060	.0352	.3224	.3521	1.003	.1117	.0057
#3	.2928	.0028	.0060	.0358	.3209	.3499	1.001	.1124	.0057

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1207**	**.9081**	**.0407**	**-.0006**	**.4722**	**.0002**	**-.0002**	**49.78**	**14.01**
Stddev	.0009	.0010	.0013	.0013	.0031	.0012	.0002	.05	.03
%RSD	.7268	.1070	3.210	231.6	.6505	669.6	112.6	.0912	.1845
#1	.1203	.9074	.0422	-.0020	.4690	.0015	-.0001	49.74	14.01
#2	.1217	.9078	.0399	.0005	.4723	-.0003	-.0000	49.83	13.98
#3	.1201	.9092	.0400	-.0001	.4751	-.0007	-.0004	49.76	14.03

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**94.07**	**22.97**	**9.974**	**17.25**	**.0781**	**.0059**	**1.397**	**.1310**	**.1285**
Stddev	.19	.10	.078	.05	.0003	.0002	.002	.0003	.0005
%RSD	.2061	.4518	.7851	.2805	.3486	3.259	.1348	.2228	.3872
#1	94.08	23.06	9.910	17.19	.0782	.0059	1.398	.1307	.1280
#2	94.26	22.86	9.951	17.26	.0783	.0061	1.395	.1309	.1284
#3	93.87	22.99	10.06	17.29	.0778	.0057	1.399	.1313	.1290

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.624**	**.0061**	**.0485**	**33.77**	**.0025**	**.0920**	**2.611**
Stddev	.002	.0011	.0000	.10	.0012	.0015	.011
%RSD	.1468	17.70	.0096	.2874	47.26	1.586	.4004
#1	1.627	.0057	.0485	33.70	.0034	.0928	2.605
#2	1.622	.0052	.0485	33.73	.0028	.0903	2.604
#3	1.624	.0073	.0485	33.88	.0012	.0928	2.623

Zoom In Zoom Out

Sample Name: jc86246-2 Acquired: 4/19/2019 3:38:22 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102320.**	**5281.5**	**3719.9**	**7745.1**
Stddev	235.	6.3	6.3	6.5
%RSD	.22974	.12012	.16923	.08444
#1	102070.	5275.8	3722.5	7750.1
#2	102530.	5280.5	3724.5	7747.5
#3	102360.	5288.3	3712.7	7737.7

Zoom In Zoom Out

Sample Name: jc86246-3 Acquired: 4/19/2019 3:43:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5628**	**.0041**	**.0213**	**.0493**	**1.083**	**.8389**	**1.438**	**.1953**	**.0139**
Stddev	.0016	.0001	.0001	.0002	.001	.0017	.001	.0002	.0003
%RSD	.2925	2.361	.4393	.4163	.1261	.2075	.0575	.1070	2.271
#1	.5645	.0042	.0212	.0495	1.083	.8372	1.437	.1955	.0140
#2	.5626	.0040	.0214	.0492	1.081	.8389	1.438	.1952	.0141
#3	.5612	.0041	.0212	.0492	1.084	.8407	1.439	.1952	.0135

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2031**	**2.043**	**.0920**	**-.0006**	**1.001**	**.0020**	**.0003**	**69.78**	**19.14**
Stddev	.0006	.001	.0009	.0008	.002	.0008	.0001	.13	.02
%RSD	.2952	.0451	.9453	128.7	.1596	38.90	46.37	.1798	.1281
#1	.2027	2.042	.0929	-.0006	.9990	.0024	.0003	69.89	19.16
#2	.2038	2.044	.0920	-.0014	1.002	.0011	.0003	69.80	19.14
#3	.2028	2.043	.0912	.0002	1.000	.0024	.0001	69.64	19.11

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**132.7**	**30.32**	**13.61**	**22.34**	**.0969**	**.0133**	**1.485**	**.2848**	**.2079**
Stddev	.4	.13	.03	.07	.0010	.0002	.003	.0011	.0009
%RSD	.3081	.4294	.1837	.2925	1.082	1.218	.1994	.3746	.4535
#1	133.1	30.47	13.64	22.41	.0981	.0134	1.488	.2836	.2090
#2	132.7	30.21	13.61	22.32	.0961	.0131	1.486	.2856	.2075
#3	132.3	30.28	13.59	22.29	.0965	.0134	1.482	.2851	.2072

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.136**	**.0097**	**.0629**	**67.94**	**.0064**	**.1225**	**4.439**
Stddev	.002	.0002	.0001	.19	.0020	.0006	.023
%RSD	.0882	1.818	.1931	.2807	31.47	.4687	.5105
#1	2.135	.0097	.0630	67.73	.0041	.1229	4.413
#2	2.136	.0098	.0628	68.03	.0071	.1218	4.456
#3	2.139	.0095	.0630	68.08	.0079	.1227	4.447

Zoom In Zoom Out

Sample Name: jc86246-3 Acquired: 4/19/2019 3:43:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102630.**	**5344.5**	**3730.9**	**7689.2**
Stddev	114.	10.9	2.2	5.4
%RSD	.11136	.20347	.05958	.06992
#1	102750.	5343.5	3732.7	7688.8
#2	102600.	5334.1	3728.4	7683.9
#3	102530.	5355.8	3731.5	7694.7

Zoom In Zoom Out

Sample Name: jc86246-4 Acquired: 4/19/2019 3:48:51 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3826**	**.0032**	**.0089**	**.0378**	**.6486**	**.6069**	**1.204**	**.1408**	**.0065**
Stddev	.0003	.0001	.0002	.0002	.0003	.0009	.001	.0003	.0002
%RSD	.0658	2.304	1.929	.4404	.0390	.1463	.0828	.2042	3.434
#1	.3828	.0032	.0088	.0379	.6488	.6068	1.204	.1408	.0063
#2	.3823	.0031	.0091	.0379	.6483	.6078	1.203	.1405	.0065
#3	.3827	.0033	.0088	.0376	.6485	.6061	1.205	.1411	.0068

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1490**	**1.155**	**.1237**	**-.0009**	**.6780**	**.0018**	**-.0007**	**57.19**	**13.63**
Stddev	.0003	.001	.0007	.0024	.0007	.0001	.0012	.12	.01
%RSD	.2016	.0563	.5685	272.6	.1049	4.487	180.8	.2160	.1103
#1	.1493	1.154	.1245	-.0028	.6773	.0017	-.0007	57.09	13.62
#2	.1492	1.155	.1233	.0018	.6787	.0017	-.0020	57.32	13.65
#3	.1487	1.154	.1232	-.0016	.6780	.0019	.0005	57.15	13.62

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**105.1**	**23.27**	**11.54**	**19.64**	**.0755**	**.0074**	**1.346**	**.4250**	**.1473**
Stddev	.2	.10	.03	.04	.0013	.0003	.004	.0008	.0002
%RSD	.1730	.4285	.2372	.2218	1.765	3.544	.3292	.1845	.1447
#1	105.0	23.21	11.52	19.61	.0745	.0073	1.341	.4254	.1470
#2	105.3	23.38	11.52	19.69	.0749	.0077	1.346	.4240	.1475
#3	105.1	23.21	11.57	19.62	.0770	.0071	1.350	.4254	.1473

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.670**	**.0095**	**.0505**	**55.14**	**.0037**	**.1080**	**2.633**
Stddev	.001	.0007	.0002	.13	.0016	.0010	.005
%RSD	.0850	7.374	.4499	.2410	42.81	.9232	.1780
#1	1.671	.0096	.0502	55.04	.0054	.1073	2.638
#2	1.669	.0087	.0506	55.29	.0023	.1092	2.633
#3	1.671	.0101	.0506	55.08	.0034	.1076	2.628

Zoom In Zoom Out

Sample Name: jc86246-4 Acquired: 4/19/2019 3:48:51 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102360.**	**5310.1**	**3726.0**	**7745.4**
Stddev	304.	28.6	6.0	14.0
%RSD	.29707	.53777	.15985	.18061
#1	102530.	5335.6	3730.8	7745.7
#2	102530.	5279.2	3727.8	7759.2
#3	102010.	5315.6	3719.3	7731.3

Zoom In Zoom Out

Sample Name: jc86246-5 Acquired: 4/19/2019 3:54:06 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5335**	**.0042**	**.0143**	**.0471**	**.8383**	**.7013**	**1.372**	**.1795**	**.0124**
Stddev	.0244	.0002	.0004	.0010	.0033	.0015	.003	.0037	.0023
%RSD	4.578	5.773	2.692	2.221	.3899	.2165	.1923	2.038	18.63
#1	.5617	.0045	.0145	.0468	.8419	.6996	1.375	.1800	.0151
#2	.5200	.0040	.0139	.0462	.8373	.7016	1.372	.1755	.0111
#3	.5188	.0041	.0146	.0482	.8356	.7026	1.370	.1828	.0111

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1903**	**1.590**	**.0976**	**-.0004**	**.8210**	**.0048**	**-.0010**	**72.38**	**17.35**
Stddev	.0003	.027	.0014	.0007	.0128	.0018	.0026	3.25	.74
%RSD	.1836	1.678	1.408	153.9	1.557	37.87	248.8	4.496	4.246
#1	.1906	1.593	.0990	.0003	.8236	.0048	-.0038	76.13	18.20
#2	.1904	1.562	.0963	-.0005	.8071	.0066	-.0008	70.71	16.97
#3	.1899	1.615	.0976	-.0011	.8323	.0030	.0014	70.30	16.88

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**135.1**	**30.97**	**14.69**	**22.68**	**.1036**	**.0116**	**1.393**	**.2593**	**.1881**
Stddev	6.2	1.27	.59	.97	.0013	.0001	.018	.0032	.0084
%RSD	4.591	4.114	4.006	4.298	1.295	1.257	1.294	1.252	4.488
#1	142.2	32.44	15.37	23.80	.1036	.0114	1.403	.2595	.1978
#2	131.6	30.28	14.33	22.15	.1023	.0116	1.372	.2559	.1829
#3	131.3	30.20	14.37	22.08	.1050	.0117	1.404	.2624	.1834

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.063**	**.0084**	**.0639**	**61.73**	**.0062**	**.1283**	**3.681**
Stddev	.004	.0003	.0004	.73	.0009	.0059	.036
%RSD	.1901	3.133	.6434	1.175	14.36	4.609	.9700
#1	2.066	.0085	.0644	61.88	.0070	.1350	3.686
#2	2.065	.0086	.0638	60.94	.0064	.1236	3.643
#3	2.059	.0081	.0636	62.37	.0053	.1264	3.714

Zoom In Zoom Out

Sample Name: jc86246-5 Acquired: 4/19/2019 3:54:06 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102680.**	**5230.3**	**3737.0**	**7706.5**
Stddev	342.	182.9	51.1	102.5
%RSD	.33291	3.4970	1.3665	1.3306
#1	102320.	5019.2	3728.8	7687.7
#2	102710.	5330.4	3791.7	7817.2
#3	103000.	5341.3	3690.5	7614.7

Zoom In Zoom Out

Sample Name: jc86246-6 Acquired: 4/19/2019 3:59:20 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4813**	**.0039**	**.0126**	**.0452**	**.7554**	**.6398**	**1.345**	**.1829**	**.0158**
Stddev	.0446	.0002	.0002	.0001	.0002	.0023	.001	.0007	.0038
%RSD	9.267	5.630	1.379	.1561	.0240	.3545	.0361	.3949	24.26
#1	.4874	.0038	.0124	.0451	.7553	.6402	1.346	.1828	.0167
#2	.4339	.0037	.0128	.0452	.7554	.6374	1.345	.1837	.0116
#3	.5225	.0041	.0127	.0452	.7556	.6418	1.346	.1823	.0190

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1828**	**1.510**	**.0925**	**-.0009**	**.7601**	**.0022**	**.0009**	**66.89**	**16.24**
Stddev	.0002	.002	.0031	.0010	.0009	.0027	.0010	6.40	1.49
%RSD	.1220	.1393	3.321	113.1	.1139	122.9	102.6	9.563	9.201
#1	.1830	1.510	.0954	.0001	.7600	.0034	.0020	67.71	16.46
#2	.1829	1.511	.0893	-.0008	.7610	-.0009	.0000	60.13	14.65
#3	.1826	1.507	.0927	-.0019	.7593	.0040	.0009	72.84	17.62

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**124.7**	**28.92**	**13.66**	**21.65**	**.1003**	**.0108**	**1.457**	**.2499**	**.1738**
Stddev	11.6	2.73	1.20	1.94	.0002	.0001	.002	.0001	.0163
%RSD	9.298	9.450	8.791	8.954	.2181	1.082	.1174	.0408	9.366
#1	126.6	29.48	13.83	21.93	.1003	.0109	1.455	.2498	.1762
#2	112.2	25.95	12.39	19.59	.1005	.0107	1.457	.2499	.1565
#3	135.2	31.32	14.77	23.44	.1001	.0108	1.459	.2500	.1888

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.259**	**.0082**	**.0608**	**58.03**	**.0055**	**.1204**	**3.569**
Stddev	.002	.0008	.0007	.08	.0002	.0118	.010
%RSD	.0972	10.08	1.227	.1389	3.013	9.772	.2860
#1	2.258	.0091	.0610	58.12	.0057	.1224	3.558
#2	2.262	.0075	.0599	58.00	.0053	.1078	3.578
#3	2.258	.0082	.0614	57.96	.0056	.1311	3.570

Zoom In Zoom Out

Sample Name: jc86246-6 Acquired: 4/19/2019 3:59:20 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102920.**	**5406.0**	**3730.8**	**7694.5**
Stddev	239.	432.2	3.5	8.8
%RSD	.23209	7.9942	.09424	.11459
#1	103150.	5311.3	3728.7	7689.3
#2	102670.	5877.7	3728.9	7689.5
#3	102940.	5029.1	3734.9	7704.7

Zoom In Zoom Out

Sample Name: jc86246-8 Acquired: 4/19/2019 4:04:34 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5912**	**.0026**	**.0084**	**.0383**	**.3122**	**.4922**	**1.270**	**.1475**	**.0150**
Stddev	.0008	.0000	.0001	.0002	.0011	.0008	.000	.0008	.0002
%RSD	.1271	1.616	1.474	.5998	.3368	.1593	.0332	.5656	1.072
#1	.5903	.0026	.0083	.0382	.3128	.4926	1.270	.1484	.0148
#2	.5915	.0026	.0084	.0386	.3129	.4927	1.270	.1468	.0151
#3	.5918	.0025	.0085	.0382	.3110	.4913	1.269	.1474	.0151

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1426**	**1.669**	**.0327**	**.0003**	**.8750**	**-.0003**	**.0013**	**44.42**	**22.18**
Stddev	.0005	.004	.0019	.0003	.0023	.0015	.0011	.19	.10
%RSD	.3377	.2213	5.797	130.2	.2670	511.7	84.92	.4265	.4293
#1	.1420	1.672	.0312	.0006	.8762	-.0020	.0016	44.51	22.27
#2	.1429	1.670	.0348	-.0001	.8764	.0005	.0023	44.54	22.19
#3	.1428	1.665	.0320	.0003	.8723	.0006	.0001	44.20	22.08

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**98.66**	**20.52**	**6.958**	**14.96**	**.0824**	**.0105**	**1.398**	**.1986**	**.1618**
Stddev	.18	.06	.034	.03	.0005	.0003	.003	.0007	.0003
%RSD	.1826	.2925	.4914	.2087	.5623	2.533	.2066	.3479	.2006
#1	98.87	20.59	6.966	14.95	.0822	.0108	1.396	.1993	.1614
#2	98.53	20.52	6.987	15.00	.0830	.0102	1.402	.1987	.1620
#3	98.59	20.47	6.921	14.94	.0821	.0105	1.397	.1979	.1619

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.043**	**.0105**	**.0444**	**34.40**	**.0041**	**.0657**	**5.027**
Stddev	.002	.0008	.0001	.18	.0008	.0013	.026
%RSD	.0926	7.300	.1666	.5113	18.40	2.046	.5245
#1	2.044	.0113	.0443	34.59	.0046	.0646	5.058
#2	2.045	.0105	.0444	34.24	.0046	.0654	5.010
#3	2.041	.0098	.0445	34.35	.0033	.0672	5.015

Zoom In Zoom Out

Sample Name: jc86246-8 Acquired: 4/19/2019 4:04:34 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102480.**	**5337.1**	**3707.8**	**7756.3**
Stddev	19.	22.3	7.0	11.1
%RSD	.01902	.41823	.18991	.14248
#1	102460.	5314.0	3703.1	7747.4
#2	102490.	5338.7	3704.4	7752.8
#3	102490.	5358.6	3715.9	7768.7

Zoom In Zoom Out

Sample Name: jc86246-9 Acquired: 4/19/2019 4:09:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4618**	**.0025**	**.0103**	**.0377**	**.3117**	**.5483**	**1.393**	**.1235**	**.0160**
Stddev	.0012	.0000	.0003	.0002	.0009	.0002	.002	.0006	.0007
%RSD	.2503	.5289	3.181	.5504	.2935	.0382	.1499	.4455	4.676
#1	.4606	.0025	.0100	.0379	.3127	.5483	1.395	.1238	.0156
#2	.4620	.0025	.0106	.0378	.3108	.5486	1.391	.1239	.0155
#3	.4628	.0025	.0102	.0375	.3116	.5481	1.393	.1229	.0169

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1366**	**1.888**	**.0310**	**.0001**	**1.267**	**.0010**	**.0075**	**41.73**	**24.38**
Stddev	.0002	.003	.0012	.0001	.000	.0025	.0013	.17	.09
%RSD	.1237	.1334	3.761	49.22	.0343	247.6	16.70	.4057	.3720
#1	.1368	1.885	.0322	.0002	1.266	.0039	.0076	41.68	24.36
#2	.1365	1.890	.0298	.0001	1.267	-.0001	.0088	41.58	24.31
#3	.1366	1.888	.0309	.0001	1.267	-.0008	.0063	41.91	24.48

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**100.1**	**20.68**	**6.363**	**19.72**	**.0990**	**.0093**	**1.391**	**.2660**	**.1890**
Stddev	.4	.10	.016	.07	.0007	.0001	.008	.0003	.0004
%RSD	.3577	.4821	.2568	.3510	.6887	1.552	.5731	.1086	.2331
#1	99.89	20.75	6.365	19.69	.0989	.0092	1.396	.2656	.1886
#2	99.83	20.57	6.345	19.67	.0997	.0092	1.395	.2662	.1889
#3	100.5	20.73	6.378	19.80	.0983	.0094	1.382	.2661	.1895

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.010**	**.0110**	**.0491**	**46.70**	**.0091**	**.0575**	**6.946**
Stddev	.002	.0001	.0002	.11	.0005	.0010	.015
%RSD	.0733	.5097	.4045	.2330	5.804	1.769	.2089
#1	2.011	.0110	.0493	46.82	.0088	.0576	6.962
#2	2.008	.0109	.0491	46.66	.0087	.0584	6.935
#3	2.010	.0110	.0490	46.62	.0097	.0564	6.942

Zoom In Zoom Out

Sample Name: jc86246-9 Acquired: 4/19/2019 4:09:50 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102330.**	**5314.1**	**3703.3**	**7767.2**
Stddev	170.	28.3	2.3	6.2
%RSD	.16621	.53201	.06263	.08038
#1	102140.	5335.6	3704.8	7766.8
#2	102480.	5324.6	3700.6	7761.2
#3	102360.	5282.1	3704.4	7773.7

Zoom In Zoom Out

Sample Name: jc86246-11 Acquired: 4/19/2019 4:15:04 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8394**	**.0036**	**.0145**	**.0497**	**.4202**	**.6775**	**3.823**	**.1535**	**.0102**
Stddev	.0015	.0001	.0002	.0010	.0009	.0018	.007	.0021	.0001
%RSD	.1846	1.408	1.303	1.983	.2035	.2662	.1856	1.357	1.192
#1	.8410	.0036	.0143	.0489	.4209	.6779	3.830	.1521	.0103
#2	.8379	.0035	.0147	.0508	.4193	.6755	3.825	.1559	.0103
#3	.8393	.0036	.0146	.0493	.4205	.6790	3.816	.1525	.0101

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1863**	**2.625**	**.0469**	**-.0001**	**1.175**	**.0029**	**.0028**	**64.11**	**28.53**
Stddev	.0002	.033	.0010	.0007	.015	.0008	.0012	.15	.08
%RSD	.1314	1.268	2.081	867.7	1.290	27.51	44.58	.2291	.2736
#1	.1865	2.610	.0460	-.0004	1.165	.0027	.0037	64.18	28.53
#2	.1862	2.664	.0480	.0007	1.192	.0023	.0033	63.94	28.46
#3	.1860	2.602	.0468	-.0006	1.167	.0038	.0014	64.22	28.61

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**132.5**	**26.14**	**8.890**	**28.89**	**.1018**	**.0099**	**1.568**	**.2757**	**.2430**
Stddev	.2	.10	.057	.07	.0012	.0002	.017	.0028	.0014
%RSD	.1486	.3849	.6390	.2268	1.169	2.376	1.052	1.019	.5923
#1	132.7	26.10	8.839	28.90	.1012	.0097	1.561	.2738	.2422
#2	132.3	26.06	8.879	28.82	.1032	.0100	1.587	.2789	.2422
#3	132.6	26.25	8.951	28.95	.1010	.0101	1.556	.2743	.2447

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.247**	**.0177**	**.0530**	**22.48**	**.0060**	**.0826**	F **15.80**
Stddev	.005	.0010	.0002	.23	.0010	.0011	.16
%RSD	.2040	5.854	.4261	1.024	15.93	1.331	1.025
#1	2.252	.0171	.0528	22.31	.0066	.0835	15.69
#2	2.246	.0189	.0532	22.74	.0065	.0830	15.99
#3	2.243	.0171	.0529	22.39	.0049	.0814	15.73

Zoom In Zoom Out

Sample Name: jc86246-11 Acquired: 4/19/2019 4:15:04 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103140.**	**5376.0**	**3710.4**	**7624.2**
Stddev	239.	21.4	34.7	69.1
%RSD	.23124	.39765	.93617	.90658
#1	102930.	5386.5	3735.2	7670.8
#2	103090.	5390.1	3670.7	7544.8
#3	103400.	5351.4	3725.2	7657.0

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 4:20:19 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.975**	**1.950**	**1.958**	**1.999**	**1.936**	**1.910**	**1.940**	**1.964**	**.2378**
Stddev	.002	.003	.004	.002	.007	.002	.004	.002	.0008
%RSD	.1031	.1324	.2109	.1070	.3583	.1068	.1836	.0777	.3253
#1	1.974	1.948	1.959	2.001	1.943	1.912	1.944	1.965	.2384
#2	1.977	1.953	1.961	1.999	1.930	1.908	1.939	1.964	.2369
#3	1.974	1.948	1.953	1.996	1.934	1.910	1.937	1.962	.2380
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.904**	**1.952**	**1.981**	**2.039**	**1.994**	**1.997**	**2.026**	**38.83**	**39.23**
Stddev	.002	.004	.004	.005	.004	.005	.002	.10	.08
%RSD	.0924	.1788	.1815	.2294	.1923	.2285	.0974	.2621	.2117
#1	1.906	1.952	1.984	2.042	1.993	2.000	2.028	38.87	39.25
#2	1.905	1.956	1.983	2.043	1.998	1.999	2.027	38.91	39.30
#3	1.902	1.949	1.977	2.034	1.990	1.992	2.024	38.72	39.14
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.84**	**37.68**	**39.27**	**39.80**	**2.056**	**1.995**	**5.148**	**1.992**	**2.011**
Stddev	.06	.14	.06	.04	.002	.002	.005	.004	.002
%RSD	.1431	.3790	.1413	.1014	.0981	.0933	.1062	.2056	.0955
#1	38.88	37.52	39.30	39.83	2.057	1.997	5.151	1.994	2.009
#2	38.86	37.71	39.31	39.81	2.058	1.995	5.151	1.995	2.011
#3	38.78	37.80	39.21	39.76	2.054	1.994	5.141	1.987	2.012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 4:20:19 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.883**	**1.953**	**1.903**	**2.030**	**2.077**	**1.949**	**1.976**
Stddev	.002	.001	.001	.002	.008	.005	.006
%RSD	.0773	.0468	.0702	.0862	.3660	.2503	.2990
#1	1.884	1.954	1.904	2.032	2.084	1.947	1.981
#2	1.882	1.953	1.902	2.029	2.077	1.955	1.976
#3	1.883	1.952	1.902	2.029	2.069	1.945	1.970
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**97719.**	**5041.2**	**3582.8**	**7461.7**
Stddev	304.	8.2	2.5	2.1
%RSD	.31144	.16218	.07007	.02798
#1	97367.	5033.4	3581.9	7459.3
#2	97889.	5040.6	3580.9	7463.1
#3	97899.	5049.7	3585.7	7462.6

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 4:25:22 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0000**	**-.0001**	**.0000**	**-.0000**	**-.0008**	**-.0000**	**.0003**	**-.0017**
Stddev	.0002	.0001	.0001	.0002	.0001	.0001	.0001	.0001	.0005
%RSD	40.64	732.7	51.69	419.1	236.1	12.71	610.0	54.23	27.53
#1	-.0005	.0001	-.0001	.0000	.0000	-.0009	-.0001	.0002	-.0018
#2	-.0006	-.0001	-.0002	.0002	-.0001	-.0008	-.0000	.0004	-.0012
#3	-.0002	-.0000	-.0001	-.0001	-.0001	-.0007	.0001	.0002	-.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0000**	**.0005**	**.0001**	**-.0008**	**-.0008**	**.0014**	**.0000**	**-.0026**
Stddev	.0001	.0001	.0009	.0006	.0006	.0018	.0007	.0052	.0004
%RSD	38.78	482.1	167.7	466.6	71.03	215.3	50.63	27140.	14.59
#1	.0003	.0000	.0008	.0009	-.0010	-.0029	.0007	.0057	-.0022
#2	.0003	-.0000	.0013	-.0002	-.0013	.0001	.0015	-.0046	-.0027
#3	.0005	-.0001	-.0005	-.0003	-.0002	.0003	.0021	-.0010	-.0029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0024**	**.0134**	**.0556**	**.0328**	**.0017**	**.0004**	**.0018**	**.0001**	**.0001**
Stddev	.0047	.0610	.0425	.0159	.0003	.0002	.0007	.0005	.0001
%RSD	197.1	456.3	76.52	48.56	17.51	43.86	39.46	845.3	115.3
#1	.0055	.0303	.1037	.0317	.0020	.0006	.0012	-.0004	.0001
#2	.0046	-.0543	.0231	.0175	.0016	.0003	.0015	.0005	-.0000
#3	-.0030	.0640	.0400	.0493	.0015	.0003	.0025	.0001	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 4:25:22 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0015**	**.0001**	**.0073**	**-.0008**	**.0019**	**.0108**
Stddev	.0001	.0001	.0001	.0005	.0008	.0008	.0014
%RSD	48.44	7.165	123.7	7.031	100.4	42.73	12.97
#1	-.0004	.0015	-.0000	.0072	-.0005	.0025	.0104
#2	-.0001	.0015	.0001	.0078	-.0001	.0022	.0096
#3	-.0002	.0017	.0002	.0068	-.0016	.0010	.0123
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102560.**	**5035.2**	**3697.4**	**8335.7**
Stddev	104.	34.1	7.9	10.7
%RSD	.10119	.67816	.21452	.12840
#1	102670.	5023.1	3701.9	8333.5
#2	102460.	5008.7	3688.2	8326.3
#3	102560.	5073.7	3701.9	8347.4

Zoom In Zoom Out

Sample Name: jc86246-12 Acquired: 4/19/2019 4:30:54 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7626**	**.0038**	**.0139**	**.0484**	**.4498**	**.6974**	**3.302**	**.1657**	**.0124**
Stddev	.0023	.0000	.0002	.0002	.0004	.0012	.005	.0006	.0006
%RSD	.3031	1.085	1.113	.4628	.0799	.1741	.1530	.3681	4.879
#1	.7605	.0038	.0138	.0482	.4496	.6977	3.305	.1651	.0131
#2	.7622	.0038	.0138	.0486	.4502	.6960	3.305	.1663	.0121
#3	.7651	.0039	.0141	.0485	.4496	.6983	3.296	.1656	.0121

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1780**	**2.446**	**.0435**	**.0005**	**1.136**	**.0034**	**.0033**	**67.89**	**26.93**
Stddev	.0003	.006	.0018	.0007	.002	.0009	.0016	.12	.09
%RSD	.1743	.2359	4.164	142.7	.1344	25.44	47.53	.1791	.3189
#1	.1779	2.453	.0441	.0010	1.138	.0043	.0015	67.79	26.89
#2	.1783	2.444	.0415	.0008	1.136	.0034	.0046	67.86	26.87
#3	.1777	2.442	.0450	-.0003	1.135	.0025	.0038	68.03	27.03

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**134.4**	**26.84**	**9.697**	**23.51**	**.0856**	**.0085**	**1.420**	**.2611**	**.2007**
Stddev	.3	.06	.019	.07	.0005	.0001	.006	.0011	.0005
%RSD	.2357	.2304	.1995	.2900	.5854	1.156	.4333	.4095	.2324
#1	134.4	26.83	9.679	23.47	.0862	.0086	1.427	.2622	.2006
#2	134.1	26.79	9.717	23.47	.0852	.0084	1.417	.2600	.2002
#3	134.7	26.91	9.696	23.59	.0854	.0086	1.416	.2610	.2012

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.223**	**.0106**	**.0546**	**23.86**	**.0058**	**.0917**	F **15.42**
Stddev	.003	.0013	.0001	.05	.0024	.0010	.04
%RSD	.1161	11.90	.1141	.2039	40.88	1.091	.2625
#1	2.225	.0092	.0545	23.92	.0081	.0918	15.46
#2	2.223	.0107	.0547	23.86	.0059	.0906	15.42
#3	2.220	.0117	.0546	23.82	.0034	.0926	15.38

Zoom In Zoom Out

Sample Name: jc86246-12 Acquired: 4/19/2019 4:30:54 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102870.**	**5359.5**	**3733.1**	**7685.1**
Stddev	200.	11.2	1.9	3.2
%RSD	.19440	.20809	.04968	.04196
#1	103000.	5353.7	3731.7	7683.3
#2	102640.	5372.3	3732.3	7683.3
#3	102980.	5352.4	3735.2	7688.9

Zoom In Zoom Out

Sample Name: jc86246-13 Acquired: 4/19/2019 4:36:08 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4661**	**.0034**	**.0115**	**.0425**	**.4110**	**.5701**	**1.791**	**.1433**	**.0066**
Stddev	.0005	.0001	.0003	.0007	.0005	.0006	.003	.0028	.0002
%RSD	.1117	2.723	2.956	1.583	.1234	.1011	.1624	1.971	3.563
#1	.4660	.0033	.0118	.0429	.4109	.5695	1.788	.1447	.0064
#2	.4656	.0035	.0111	.0417	.4106	.5706	1.790	.1400	.0068
#3	.4666	.0035	.0117	.0429	.4116	.5703	1.794	.1451	.0064

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1683**	**1.840**	**.0453**	**-.0001**	**.7987**	**.0022**	**.0008**	**60.87**	**21.85**
Stddev	.0009	.036	.0027	.0003	.0142	.0018	.0006	.11	.04
%RSD	.5137	1.936	5.938	218.7	1.777	81.66	71.55	.1741	.1884
#1	.1674	1.860	.0483	-.0003	.8052	.0039	.0015	60.79	21.81
#2	.1690	1.799	.0434	.0002	.7825	.0024	.0003	60.99	21.89
#3	.1686	1.862	.0440	-.0003	.8086	.0003	.0007	60.84	21.84

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**121.6**	**28.01**	**11.26**	**23.38**	**.1057**	**.0075**	**1.398**	**.2609**	**.1964**
Stddev	.1	.13	.04	.07	.0015	.0002	.032	.0056	.0007
%RSD	.0761	.4566	.3621	.2796	1.405	3.056	2.262	2.148	.3763
#1	121.5	28.09	11.29	23.31	.1066	.0073	1.416	.2633	.1958
#2	121.6	27.86	11.22	23.42	.1040	.0075	1.361	.2545	.1961
#3	121.6	28.07	11.27	23.42	.1065	.0077	1.416	.2650	.1972

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.056**	**.0086**	**.0562**	**47.39**	**.0078**	**.0943**	**7.242**
Stddev	.001	.0007	.0003	1.01	.0014	.0014	.152
%RSD	.0641	8.557	.6002	2.126	17.76	1.536	2.092
#1	2.055	.0094	.0558	47.98	.0091	.0949	7.332
#2	2.058	.0081	.0564	46.23	.0078	.0927	7.067
#3	2.057	.0082	.0564	47.96	.0064	.0954	7.327

Zoom In Zoom Out

Sample Name: jc86246-13 Acquired: 4/19/2019 4:36:08 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102400.**	**5336.1**	**3749.4**	**7759.5**
Stddev	96.	11.5	65.7	127.2
%RSD	.09338	.21475	1.7514	1.6394
#1	102500.	5323.1	3718.1	7697.1
#2	102400.	5340.4	3824.9	7905.9
#3	102310.	5344.7	3705.2	7675.6

Zoom In Zoom Out

Sample Name: jc86246-14 Acquired: 4/19/2019 4:41:21 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5445**	**.0037**	**.0139**	**.0436**	**.4601**	**.6727**	**2.387**	**.1548**	**.0114**
Stddev	.0007	.0001	.0002	.0002	.0009	.0012	.004	.0002	.0002
%RSD	.1357	2.469	1.323	.4072	.1898	.1826	.1465	.1028	2.186
#1	.5452	.0038	.0141	.0435	.4606	.6717	2.388	.1547	.0111
#2	.5437	.0037	.0137	.0435	.4591	.6741	2.383	.1550	.0115
#3	.5445	.0037	.0139	.0438	.4607	.6723	2.389	.1547	.0115

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1677**	**2.232**	**.0473**	**.0006**	**1.102**	**.0022**	**.0010**	**64.10**	**22.25**
Stddev	.0004	.003	.0011	.0014	.002	.0017	.0008	.21	.06
%RSD	.2650	.1265	2.256	260.2	.1439	77.84	79.62	.3277	.2602
#1	.1681	2.229	.0463	.0022	1.100	.0005	.0001	64.24	22.24
#2	.1672	2.234	.0484	-.0006	1.103	.0022	.0015	63.86	22.20
#3	.1678	2.234	.0472	.0001	1.103	.0040	.0013	64.20	22.31

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**125.3**	**27.81**	**10.71**	**28.40**	**.1102**	**.0095**	**1.415**	**.2412**	**.2143**
Stddev	.2	.07	.03	.01	.0003	.0000	.001	.0002	.0004
%RSD	.1727	.2693	.2979	.0376	.2500	.1981	.0700	.1021	.1649
#1	125.1	27.73	10.68	28.40	.1101	.0095	1.415	.2411	.2140
#2	125.5	27.86	10.74	28.38	.1101	.0095	1.415	.2410	.2143
#3	125.3	27.86	10.72	28.40	.1105	.0094	1.417	.2415	.2147

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.998**	**.0101**	**.0593**	**35.35**	**.0055**	**.0948**	F **12.36**
Stddev	.003	.0005	.0002	.05	.0014	.0013	.01
%RSD	.1701	4.492	.3727	.1502	25.06	1.407	.1123
#1	1.999	.0101	.0596	35.38	.0043	.0957	12.37
#2	1.994	.0096	.0593	35.38	.0052	.0933	12.36
#3	2.000	.0105	.0592	35.29	.0070	.0955	12.35

Zoom In Zoom Out

Sample Name: jc86246-14 Acquired: 4/19/2019 4:41:21 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103020.**	**5377.2**	**3714.3**	**7664.6**
Stddev	329.	5.5	3.1	6.7
%RSD	.31892	.10205	.08319	.08691
#1	102820.	5370.9	3717.0	7670.3
#2	103400.	5379.7	3714.9	7657.3
#3	102840.	5381.0	3710.9	7666.2

Zoom In Zoom Out

Sample Name: jc86246-15 Acquired: 4/19/2019 4:46:36 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7169**	**.0039**	**.0190**	**.0491**	**.5360**	**.8204**	**2.832**	**.1850**	**.0171**
Stddev	.0176	.0001	.0004	.0010	.0022	.0014	.001	.0038	.0012
%RSD	2.456	3.736	2.208	1.950	.4098	.1678	.0333	2.042	7.134
#1	.7061	.0040	.0194	.0502	.5381	.8188	2.833	.1893	.0160
#2	.7372	.0041	.0188	.0487	.5362	.8212	2.831	.1825	.0184
#3	.7074	.0038	.0187	.0485	.5338	.8211	2.832	.1831	.0169

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1830**	**2.598**	**.0492**	**.0001**	**1.347**	**.0026**	**.0009**	**71.44**	**24.66**
Stddev	.0005	.061	.0006	.0003	.031	.0009	.0005	1.99	.70
%RSD	.2754	2.337	1.187	461.4	2.277	35.30	56.82	2.783	2.831
#1	.1835	2.668	.0489	-.0002	1.383	.0016	.0006	70.37	24.29
#2	.1825	2.566	.0488	.0004	1.327	.0034	.0006	73.74	25.47
#3	.1830	2.560	.0498	-.0001	1.332	.0028	.0015	70.22	24.23

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**136.9**	**29.21**	**10.99**	**28.72**	**.0976**	**.0101**	**1.523**	**.2849**	**.2411**
Stddev	3.6	.69	.26	.73	.0026	.0001	.036	.0068	.0057
%RSD	2.624	2.377	2.377	2.530	2.713	1.387	2.351	2.397	2.369
#1	134.9	28.92	10.82	28.30	.1007	.0100	1.564	.2928	.2373
#2	141.1	30.00	11.30	29.56	.0963	.0102	1.498	.2814	.2476
#3	134.8	28.71	10.86	28.30	.0959	.0100	1.506	.2805	.2383

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.151**	**.0130**	**.0581**	**39.76**	**.0074**	**.1029**	F **14.15**
Stddev	.001	.0004	.0003	.98	.0004	.0025	.35
%RSD	.0441	3.409	.5784	2.467	5.967	2.433	2.477
#1	2.150	.0125	.0580	40.89	.0076	.1018	14.56
#2	2.151	.0132	.0585	39.20	.0078	.1057	13.95
#3	2.151	.0132	.0578	39.18	.0069	.1011	13.95

Zoom In Zoom Out

Sample Name: jc86246-15 Acquired: 4/19/2019 4:46:36 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103380.**	**5327.2**	**3693.6**	**7605.0**
Stddev	300.	119.6	71.6	135.7
%RSD	.29058	2.2454	1.9375	1.7843
#1	103060.	5391.1	3610.9	7448.4
#2	103440.	5189.2	3733.8	7680.7
#3	103650.	5401.3	3735.9	7686.0

Zoom In Zoom Out

Sample Name: jc86246-16 Acquired: 4/19/2019 4:51:49 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7210**	**.0042**	**.0206**	**.0479**	**.5558**	**.8252**	**2.223**	**.1758**	**.0174**
Stddev	.0013	.0001	.0001	.0003	.0016	.0030	.006	.0003	.0002
%RSD	.1769	1.631	.4993	.6307	.2868	.3584	.2616	.1624	1.188
#1	.7225	.0041	.0205	.0482	.5576	.8261	2.230	.1757	.0175
#2	.7204	.0043	.0207	.0476	.5547	.8219	2.220	.1761	.0172
#3	.7202	.0042	.0206	.0479	.5551	.8276	2.219	.1755	.0176

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1879**	**2.481**	**.0508**	**-.0010**	**1.356**	**.0033**	**.0013**	**70.54**	**24.96**
Stddev	.0002	.001	.0006	.0013	.001	.0010	.0004	.07	.05
%RSD	.1132	.0539	1.216	121.2	.1034	29.69	28.65	.1028	.1818
#1	.1882	2.480	.0504	-.0002	1.355	.0039	.0010	70.59	25.01
#2	.1878	2.482	.0515	-.0025	1.355	.0022	.0012	70.59	24.96
#3	.1878	2.480	.0505	-.0005	1.357	.0038	.0018	70.46	24.92

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**127.3**	**27.48**	**10.37**	**25.72**	**.0920**	**.0097**	**2.069**	**.2697**	**.2734**
Stddev	.3	.05	.01	.01	.0009	.0001	.010	.0011	.0005
%RSD	.2160	.1682	.0646	.0211	.9715	1.281	.4752	.3964	.1794
#1	127.5	27.50	10.38	25.72	.0911	.0096	2.075	.2693	.2735
#2	127.0	27.42	10.37	25.73	.0919	.0098	2.075	.2688	.2729
#3	127.4	27.50	10.37	25.72	.0929	.0096	2.058	.2709	.2739

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.184**	**.0122**	**.0537**	**46.49**	**.0070**	**.0985**	F **10.74**
Stddev	.002	.0011	.0001	.09	.0005	.0008	.04
%RSD	.1001	9.271	.1738	.1910	7.797	.8058	.3294
#1	2.186	.0116	.0537	46.45	.0076	.0980	10.71
#2	2.182	.0116	.0538	46.59	.0069	.0994	10.78
#3	2.184	.0135	.0537	46.42	.0065	.0981	10.73

Zoom In Zoom Out

Sample Name: jc86246-16 Acquired: 4/19/2019 4:51:49 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102730.**	**5353.8**	**3722.4**	**7677.7**
Stddev	337.	8.4	1.3	3.2
%RSD	.32781	.15706	.03603	.04145
#1	102350.	5346.8	3723.9	7675.2
#2	102980.	5351.5	3721.3	7681.3
#3	102870.	5363.2	3721.9	7676.7

Zoom In Zoom Out

Sample Name: jc86246-17 Acquired: 4/19/2019 4:57:02 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6910**	**.0040**	**.0228**	**.0488**	**.6070**	**.8492**	**1.926**	**.1844**	**.0214**
Stddev	.0005	.0001	.0001	.0003	.0158	.0214	.051	.0001	.0005
%RSD	.0728	2.308	.5561	.7033	2.608	2.525	2.663	.0406	2.282
#1	.6905	.0039	.0228	.0485	.6137	.8553	1.939	.1843	.0215
#2	.6915	.0041	.0226	.0492	.5889	.8254	1.869	.1843	.0219
#3	.6911	.0041	.0229	.0487	.6184	.8669	1.969	.1845	.0209

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1805**	**2.425**	**.0520**	**.0008**	**1.375**	**.0040**	**-.0005**	**75.07**	**25.37**
Stddev	.0045	.006	.0012	.0014	.009	.0008	.0021	.08	.09
%RSD	2.476	.2400	2.234	160.5	.6796	19.02	412.4	.1089	.3437
#1	.1812	2.426	.0533	-.0005	1.372	.0049	.0006	74.98	25.28
#2	.1758	2.431	.0519	.0009	1.386	.0035	.0008	75.09	25.39
#3	.1846	2.419	.0510	.0022	1.368	.0038	-.0030	75.14	25.45

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**120.3**	**28.00**	**11.22**	**28.10**	**.0894**	**.0094**	**2.076**	**.3072**	**.2977**
Stddev	.3	.20	.03	.06	.0007	.0001	.011	.0018	.0003
%RSD	.2217	.7281	.3079	.2074	.8056	.7458	.5243	.5812	.1117
#1	120.1	27.99	11.18	28.04	.0899	.0094	2.089	.3068	.2976
#2	120.3	27.80	11.21	28.13	.0896	.0094	2.071	.3092	.2981
#3	120.6	28.21	11.25	28.14	.0885	.0093	2.068	.3056	.2975

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.113**	**.0134**	**.0420**	**34.74**	**.0066**	**.1017**	F **11.27**
Stddev	.057	.0004	.0009	.12	.0017	.0002	.05
%RSD	2.711	2.725	2.159	.3558	25.64	.1869	.4211
#1	2.130	.0138	.0422	34.72	.0047	.1018	11.27
#2	2.049	.0132	.0410	34.87	.0072	.1017	11.32
#3	2.159	.0132	.0427	34.63	.0079	.1015	11.23

Zoom In Zoom Out

Sample Name: jc86246-17 Acquired: 4/19/2019 4:57:02 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103440.**	**5363.3**	**3731.1**	**7637.7**
Stddev	2409.	23.6	7.2	9.6
%RSD	2.3286	.43951	.19205	.12516
#1	102850.	5381.2	3726.1	7627.5
#2	106090.	5372.1	3727.9	7639.1
#3	101390.	5336.6	3739.3	7646.4

Zoom In Zoom Out

Sample Name: jc86246-18 Acquired: 4/19/2019 5:02:15 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2960**	**.0031**	**.0011**	**.0362**	**.3879**	**.6571**	**1.129**	**.1192**	**.0009**
Stddev	.0006	.0002	.0002	.0005	.0311	.0520	.090	.0005	.0026
%RSD	.2136	6.110	14.53	1.301	8.029	7.915	8.002	.4015	277.3
#1	.2954	.0029	.0013	.0367	.3682	.6242	1.074	.1197	.0025
#2	.2959	.0033	.0010	.0359	.4238	.7171	1.233	.1192	-.0021
#3	.2967	.0031	.0010	.0359	.3716	.6301	1.080	.1187	.0024

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1252**	**1.138**	**.1556**	**.0009**	**.7938**	**.0011**	**.0034**	**54.37**	**14.83**
Stddev	.0100	.002	.0005	.0008	.0036	.0011	.0002	.03	.06
%RSD	7.975	.2128	.2988	91.33	.4496	103.8	6.858	.0626	.3843
#1	.1192	1.141	.1561	.0005	.7970	.0021	.0035	54.40	14.76
#2	.1367	1.136	.1556	.0018	.7900	.0013	.0036	54.36	14.84
#3	.1196	1.138	.1551	.0003	.7943	-.0001	.0032	54.34	14.88

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**109.8**	**20.51**	**8.970**	**7.263**	**.0458**	**.0036**	**2.020**	**.3489**	**.0974**
Stddev	.3	.13	.035	.007	.0005	.0001	.011	.0013	.0003
%RSD	.2409	.6452	.3931	.1016	1.100	2.799	.5217	.3816	.2613
#1	109.6	20.36	8.987	7.271	.0452	.0037	2.032	.3502	.0973
#2	109.7	20.54	8.929	7.256	.0462	.0036	2.015	.3488	.0972
#3	110.1	20.62	8.994	7.261	.0459	.0035	2.013	.3476	.0977

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.560**	**.0065**	**.0445**	**57.13**	**.0023**	**.1095**	**2.137**
Stddev	.124	.0008	.0032	.14	.0015	.0010	.007
%RSD	7.931	12.30	7.096	.2405	66.24	.8879	.3075
#1	1.484	.0075	.0425	57.27	.0022	.1100	2.144
#2	1.703	.0062	.0481	57.14	.0038	.1083	2.134
#3	1.493	.0060	.0429	56.99	.0008	.1100	2.131

Zoom In Zoom Out

Sample Name: jc86246-18 Acquired: 4/19/2019 5:02:15 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**98572.**	**5268.1**	**3720.4**	**7836.5**
Stddev	6626.	24.1	7.7	14.3
%RSD	6.7223	.45705	.20572	.18240
#1	102700.	5295.3	3714.1	7824.7
#2	90929.	5259.6	3718.1	7832.5
#3	102090.	5249.5	3728.9	7852.4

Zoom In Zoom Out

Sample Name: jc86246-19 Acquired: 4/19/2019 5:07:31 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2027**	**.0026**	**.0008**	**.0323**	**.3193**	**.5201**	**.8718**	**.1029**	**.0037**
Stddev	.0004	.0001	.0002	.0001	.0022	.0013	.0022	.0004	.0004
%RSD	.2182	4.414	20.75	.1587	.6879	.2519	.2486	.4339	10.68
#1	.2024	.0026	.0009	.0323	.3197	.5211	.8708	.1031	.0037
#2	.2025	.0024	.0010	.0323	.3212	.5206	.8743	.1023	.0041
#3	.2032	.0026	.0006	.0322	.3169	.5186	.8703	.1031	.0033

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1065**	**.8930**	**.1200**	**.0001**	**.5980**	**.0008**	**.0025**	**50.05**	**11.67**
Stddev	.0006	.0015	.0006	.0005	.0026	.0008	.0004	.10	.01
%RSD	.5268	.1698	.5212	362.2	.4426	104.1	17.55	.1941	.1071
#1	.1059	.8938	.1194	.0003	.5955	-.0002	.0030	49.99	11.66
#2	.1064	.8938	.1206	.0005	.5978	.0012	.0025	49.99	11.67
#3	.1071	.8912	.1202	-.0004	.6008	.0014	.0021	50.16	11.68

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**90.38**	**17.94**	**8.357**	**5.328**	**.0432**	**.0033**	**1.782**	**.3517**	**.0930**
Stddev	.32	.04	.016	.013	.0001	.0001	.007	.0001	.0001
%RSD	.3488	.2175	.1966	.2511	.2042	1.650	.4032	.0426	.0627
#1	90.57	17.98	8.350	5.325	.0432	.0034	1.791	.3518	.0930
#2	90.56	17.94	8.344	5.316	.0432	.0033	1.778	.3517	.0931
#3	90.02	17.90	8.375	5.342	.0433	.0033	1.778	.3515	.0930

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.351**	**.0046**	**.0344**	**44.61**	**.0036**	**.0987**	**1.855**
Stddev	.002	.0008	.0001	.05	.0013	.0020	.001
%RSD	.1255	18.22	.4060	.1058	35.78	2.062	.0469
#1	1.351	.0050	.0343	44.58	.0032	.0990	1.855
#2	1.352	.0051	.0343	44.66	.0050	.0966	1.854
#3	1.349	.0036	.0346	44.58	.0026	.1006	1.856

Zoom In Zoom Out

Sample Name: jc86246-19 Acquired: 4/19/2019 5:07:31 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102460.**	**5292.7**	**3718.4**	**7865.3**
Stddev	298.	16.3	4.4	7.6
%RSD	.29067	.30835	.11935	.09621
#1	102700.	5273.9	3715.2	7864.6
#2	102130.	5302.4	3716.6	7858.0
#3	102540.	5301.8	3723.5	7873.1

Zoom In Zoom Out

Sample Name: jc86246-20 Acquired: 4/19/2019 5:12:47 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1286**	**.0020**	**.0003**	**.0296**	**.2198**	**.2771**	**.6745**	**.0802**	**.0004**
Stddev	.0001	.0000	.0001	.0003	.0010	.0002	.0021	.0000	.0005
%RSD	.0732	1.836	44.59	.9254	.4529	.0635	.3095	.0595	118.7
#1	.1286	.0021	.0004	.0293	.2202	.2773	.6762	.0802	.0007
#2	.1286	.0020	.0002	.0296	.2187	.2771	.6722	.0801	.0006
#3	.1287	.0020	.0004	.0298	.2205	.2770	.6751	.0801	-.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0902**	**.4608**	**.0585**	**-.0003**	**.3168**	**-.0002**	**-.0006**	**50.36**	**5.276**
Stddev	.0006	.0009	.0002	.0011	.0016	.0020	.0007	.16	.011
%RSD	.6562	.1980	.3067	362.7	.5033	1212.	121.2	.3163	.2140
#1	.0909	.4616	.0583	.0010	.3173	.0021	-.0003	50.47	5.280
#2	.0898	.4608	.0586	-.0011	.3181	-.0010	-.0000	50.44	5.284
#3	.0899	.4598	.0587	-.0008	.3150	-.0016	-.0013	50.18	5.263

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**74.47**	**16.50**	**6.888**	**3.107**	**.0324**	**.0017**	**1.608**	**.1436**	**.0621**
Stddev	.14	.11	.023	.011	.0006	.0002	.005	.0004	.0001
%RSD	.1884	.6499	.3349	.3658	1.864	10.02	.3257	.2765	.1542
#1	74.58	16.60	6.903	3.096	.0324	.0017	1.613	.1440	.0620
#2	74.51	16.53	6.899	3.119	.0331	.0016	1.607	.1432	.0622
#3	74.31	16.39	6.861	3.104	.0319	.0019	1.603	.1436	.0621

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.438**	**.0033**	**.0321**	**31.71**	**.0011**	**.0989**	**1.799**
Stddev	.003	.0004	.0003	.04	.0008	.0013	.003
%RSD	.1843	11.90	1.030	.1122	71.27	1.273	.1887
#1	1.441	.0036	.0322	31.75	.0018	.0975	1.803
#2	1.436	.0034	.0317	31.70	.0003	.0992	1.797
#3	1.439	.0028	.0323	31.68	.0011	.0999	1.797

Zoom In Zoom Out

Sample Name: jc86246-20 Acquired: 4/19/2019 5:12:47 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102310.**	**5226.0**	**3727.9**	**7908.2**
Stddev	422.	15.1	1.6	5.1
%RSD	.41238	.28882	.04286	.06415
#1	101900.	5215.4	3726.8	7908.9
#2	102740.	5219.4	3727.1	7902.9
#3	102270.	5243.3	3729.7	7913.0

Zoom In Zoom Out

Sample Name: jc86246-21 Acquired: 4/19/2019 5:18:04 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2246**	**.0036**	**.0014**	**.0467**	**.7223**	**.8769**	**1.199**	**.1396**	**.0029**
Stddev	.0006	.0001	.0002	.0002	.0015	.0008	.000	.0005	.0003
%RSD	.2480	3.983	12.71	.4244	.2097	.0957	.0325	.3678	11.24
#1	.2252	.0034	.0013	.0465	.7240	.8774	1.200	.1390	.0033
#2	.2244	.0037	.0013	.0467	.7212	.8774	1.200	.1400	.0026
#3	.2242	.0037	.0016	.0469	.7216	.8759	1.199	.1397	.0029

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1595**	**1.101**	**.1357**	**-.0011**	**1.039**	**.0015**	**.0009**	**73.71**	**9.149**
Stddev	.0009	.001	.0015	.0003	.002	.0013	.0016	.10	.030
%RSD	.5609	.1133	1.103	27.75	.1739	82.51	180.8	.1376	.3298
#1	.1600	1.100	.1344	-.0015	1.037	.0001	-.0009	73.73	9.114
#2	.1585	1.102	.1373	-.0009	1.038	.0021	.0014	73.81	9.168
#3	.1601	1.102	.1353	-.0010	1.041	.0025	.0022	73.61	9.165

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**122.9**	**27.27**	**11.87**	**3.752**	**.0543**	**.0045**	**2.035**	**.2664**	**.1060**
Stddev	.3	.21	.02	.012	.0004	.0003	.003	.0003	.0001
%RSD	.2308	.7686	.2019	.3076	.7007	6.760	.1479	.1256	.0803
#1	123.1	27.03	11.89	3.761	.0541	.0049	2.038	.2662	.1061
#2	123.1	27.42	11.89	3.739	.0547	.0044	2.037	.2662	.1059
#3	122.6	27.36	11.85	3.757	.0540	.0043	2.032	.2668	.1059

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.980**	**.0088**	**.0492**	**64.70**	**.0036**	**.1437**	**2.470**
Stddev	.003	.0004	.0002	.03	.0010	.0005	.003
%RSD	.1338	4.751	.3872	.0445	28.14	.3422	.1310
#1	1.978	.0089	.0494	64.67	.0026	.1442	2.467
#2	1.983	.0084	.0491	64.73	.0046	.1432	2.472
#3	1.979	.0092	.0491	64.70	.0036	.1438	2.472

Zoom In Zoom Out

Sample Name: jc86246-21 Acquired: 4/19/2019 5:18:04 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103000.**	**5286.3**	**3742.2**	**7789.4**
Stddev	183.	27.5	2.5	1.7
%RSD	.17754	.51935	.06550	.02155
#1	102970.	5294.7	3742.2	7790.8
#2	102830.	5255.6	3739.7	7787.5
#3	103190.	5308.5	3744.6	7790.0

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 5:23:20 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.988**	**1.963**	**1.970**	**2.015**	**1.950**	**1.922**	**1.954**	**1.979**	**.2389**
Stddev	.002	.003	.001	.001	.002	.003	.002	.001	.0005
%RSD	.0855	.1698	.0554	.0627	.0946	.1494	.1092	.0727	.1928
#1	1.987	1.964	1.969	2.016	1.950	1.925	1.956	1.978	.2391
#2	1.987	1.959	1.971	2.014	1.949	1.920	1.953	1.977	.2392
#3	1.990	1.965	1.970	2.014	1.952	1.922	1.952	1.980	.2384
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.919**	**1.967**	**1.996**	**2.046**	**2.007**	**2.010**	**2.047**	**39.03**	**39.44**
Stddev	.002	.004	.000	.002	.004	.002	.001	.05	.12
%RSD	.1271	.1914	.0206	.1016	.1996	.1190	.0661	.1303	.2988
#1	1.922	1.971	1.997	2.044	2.003	2.007	2.047	39.09	39.55
#2	1.919	1.964	1.997	2.047	2.007	2.010	2.049	38.99	39.45
#3	1.917	1.967	1.996	2.048	2.011	2.012	2.046	39.01	39.31
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.02**	**37.82**	**39.56**	**40.07**	**2.074**	**2.010**	**5.191**	**2.007**	**2.027**
Stddev	.01	.15	.09	.04	.003	.001	.003	.004	.004
%RSD	.0150	.3838	.2192	.0949	.1223	.0323	.0662	.1931	.1733
#1	39.01	37.89	39.62	40.11	2.073	2.011	5.195	2.012	2.027
#2	39.02	37.66	39.60	40.07	2.077	2.010	5.189	2.005	2.024
#3	39.02	37.93	39.46	40.04	2.072	2.010	5.189	2.005	2.031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 5:23:20 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.895**	**1.965**	**1.918**	**2.050**	**2.094**	**1.962**	**1.983**
Stddev	.002	.002	.003	.002	.004	.004	.003
%RSD	.1029	.1001	.1735	.0901	.1745	.2019	.1253
#1	1.897	1.966	1.922	2.049	2.098	1.960	1.980
#2	1.893	1.965	1.915	2.052	2.094	1.966	1.984
#3	1.894	1.963	1.917	2.049	2.090	1.958	1.984
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**97405.**	**5015.7**	**3562.8**	**7420.2**
Stddev	161.	17.1	7.2	8.9
%RSD	.16561	.34072	.20213	.12057
#1	97591.	4997.9	3554.9	7409.9
#2	97305.	5017.3	3564.7	7425.1
#3	97318.	5032.0	3568.9	7425.6

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 5:28:22 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0001**	**-.0001**	**.0001**	**-.0002**	**-.0007**	**-.0001**	**.0002**	**-.0018**
Stddev	.0001	.0001	.0001	.0000	.0001	.0004	.0001	.0003	.0003
%RSD	28.56	88.46	126.0	44.93	54.99	49.57	97.87	177.4	15.86
#1	-.0003	-.0000	-.0001	.0001	-.0001	-.0010	-.0000	.0003	-.0019
#2	-.0005	-.0001	.0000	.0001	-.0003	-.0003	-.0001	-.0002	-.0015
#3	-.0003	-.0001	-.0002	.0000	-.0002	-.0009	-.0001	.0003	-.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0001**	**.0001**	**.0003**	**-.0007**	**-.0004**	**.0005**	**.0042**	**.0020**
Stddev	.0002	.0001	.0001	.0005	.0003	.0008	.0005	.0101	.0029
%RSD	978.1	105.9	71.32	157.9	37.15	224.1	101.1	237.2	149.9
#1	-.0003	-.0001	.0001	.0004	-.0007	.0001	.0011	-.0020	-.0012
#2	.0002	.0000	.0000	-.0002	-.0010	-.0013	.0002	-.0011	.0046
#3	.0002	-.0000	.0001	.0008	-.0005	.0001	.0002	.0158	.0024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0025**	**-.0550**	**.0311**	**.0250**	**.0014**	**.0001**	**.0023**	**-.0006**	**.0000**
Stddev	.0054	.0232	.0374	.0170	.0002	.0000	.0004	.0004	.0001
%RSD	218.0	42.17	120.5	68.25	15.84	31.14	15.87	58.96	446.4
#1	.0023	-.0334	.0642	.0227	.0016	.0001	.0027	-.0006	.0000
#2	-.0014	-.0795	.0385	.0092	.0012	.0002	.0024	-.0010	-.0001
#3	-.0083	-.0522	-.0095	.0430	.0014	.0001	.0019	-.0003	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 5:28:22 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0007**	**.0002**	**.0037**	**-.0011**	**.0014**	**.0109**
Stddev	.0001	.0002	.0001	.0004	.0014	.0016	.0008
%RSD	38.36	32.36	40.73	10.76	130.9	110.7	7.002
#1	-.0003	.0008	.0002	.0033	-.0014	.0026	.0118
#2	-.0003	.0008	.0002	.0041	-.0023	-.0004	.0106
#3	-.0005	.0004	.0001	.0038	.0005	.0020	.0103
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102150.**	**5058.4**	**3686.2**	**8299.3**
Stddev	84.	15.1	3.7	7.0
%RSD	.08248	.29893	.09962	.08480
#1	102100.	5046.5	3689.2	8291.2
#2	102100.	5053.2	3682.1	8303.6
#3	102250.	5075.4	3687.2	8303.1

Zoom In Zoom Out

Sample Name: mp14277-mb1 Acquired: 4/19/2019 5:33:55 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0000**	**-.0002**	**.0003**	**.0010**	**.0001**	**.0001**	**.0006**	**-.0017**
Stddev	.0002	.0000	.0000	.0001	.0004	.0002	.0000	.0001	.0003
%RSD	60.17	138.1	17.67	26.61	36.71	227.3	13.31	11.51	19.78
#1	-.0006	-.0000	-.0003	.0004	.0013	-.0001	.0002	.0007	-.0020
#2	-.0002	.0000	-.0002	.0003	.0006	.0001	.0002	.0006	-.0014
#3	-.0002	.0000	-.0002	.0002	.0012	.0003	.0001	.0006	-.0017

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0053**	**.0000**	**-.0001**	**-.0013**	**-.0021**	**.0001**	**.0063**	**.0412**
Stddev	.0002	.0000	.0007	.0003	.0005	.0012	.0010	.0231	.0060
%RSD	3783.	.3278	3266.	397.1	39.48	56.57	740.7	365.3	14.64
#1	.0002	.0053	.0003	.0002	-.0017	-.0018	.0009	-.0195	.0393
#2	-.0002	.0053	-.0007	-.0000	-.0007	-.0035	.0005	.0251	.0364
#3	-.0001	.0053	.0005	-.0003	-.0015	-.0011	-.0010	.0133	.0480

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0190**	**.0327**	**-.0024**	**.0498**	**.0008**	**.0002**	**.0178**	**.0217**	**.0002**
Stddev	.0047	.0185	.0224	.0030	.0003	.0002	.0005	.0005	.0001
%RSD	24.98	56.45	922.8	6.071	36.70	149.8	2.971	2.537	45.89
#1	.0143	.0117	-.0263	.0533	.0009	-.0001	.0181	.0219	.0003
#2	.0188	.0398	.0181	.0481	.0010	.0002	.0172	.0220	.0001
#3	.0238	.0465	.0009	.0481	.0005	.0004	.0181	.0210	.0002

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**-.0001**	**.0002**	**.0133**	**.0003**	**-.0012**	**.0303**
Stddev	.0002	.0007	.0002	.0004	.0005	.0007	.0006
%RSD	44.22	573.3	63.43	2.668	164.9	63.81	1.825
#1	.0003	.0001	.0003	.0137	-.0002	-.0019	.0306
#2	.0007	.0004	.0004	.0131	.0008	-.0004	.0306
#3	.0006	-.0009	.0001	.0130	.0004	-.0012	.0296

Zoom In Zoom Out

Sample Name: mp14277-mb1 Acquired: 4/19/2019 5:33:55 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103010.**	**5162.9**	**3690.1**	**8352.1**
Stddev	234.	3.8	4.7	13.2
%RSD	.22709	.07340	.12688	.15862
#1	103170.	5160.6	3691.0	8345.0
#2	102750.	5167.3	3685.0	8344.0
#3	103130.	5160.8	3694.2	8367.4

Zoom In Zoom Out

Sample Name: mp14277-b1 Acquired: 4/19/2019 5:39:27 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.927**	**1.898**	**1.918**	**1.941**	**1.876**	**1.858**	**1.885**	**1.908**
Stddev	.007	.007	.029	.027	.007	.002	.004	.027
%RSD	.3886	.3794	1.494	1.391	.3813	.1066	.2381	1.392
#1	1.933	1.906	1.902	1.926	1.869	1.858	1.881	1.895
#2	1.928	1.896	1.951	1.972	1.877	1.860	1.886	1.939
#3	1.918	1.893	1.901	1.925	1.883	1.856	1.890	1.890

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2400**	**1.837**	**1.925**	**1.989**	**2.023**	**1.945**	**1.941**	**2.043**
Stddev	.0005	.003	.026	.028	.029	.025	.028	.029
%RSD	.1930	.1812	1.375	1.393	1.410	1.295	1.426	1.424
#1	.2396	1.835	1.910	1.973	2.008	1.937	1.923	2.029
#2	.2405	1.836	1.956	2.021	2.056	1.973	1.972	2.077
#3	.2397	1.841	1.910	1.972	2.005	1.924	1.926	2.025

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.56**	**23.89**	**23.69**	**22.78**	**23.78**	**24.09**	**1.953**	**1.994**
Stddev	.08	.12	.08	.17	.07	.09	.026	.029
%RSD	.3497	.4885	.3492	.7354	.2748	.3716	1.339	1.441
#1	23.61	24.01	23.78	22.95	23.85	24.18	1.938	1.977
#2	23.61	23.90	23.65	22.61	23.75	24.10	1.984	2.027
#3	23.47	23.77	23.63	22.79	23.73	24.00	1.938	1.978

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0981**	**2.046**	**1.953**	**1.875**	**1.379**	**1.899**	W **-.0451**	**.0011**
Stddev	.0031	.024	.007	.004	.022	.004	.0013	.0008
%RSD	3.136	1.186	.3857	.2145	1.582	.1981	2.981	68.64
#1	.0963	2.033	1.960	1.871	1.364	1.895	-.0445	.0014
#2	.1017	2.074	1.953	1.875	1.404	1.899	-.0442	.0002
#3	.0963	2.032	1.945	1.879	1.369	1.902	-.0467	.0017

Zoom In Zoom Out

Sample Name: mp14277-b1 Acquired: 4/19/2019 5:39:27 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0001**	**1.945**
Stddev	.0013	.027
%RSD	1296.	1.375
#1	.0008	1.929
#2	-.0014	1.976
#3	.0009	1.930

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**99280.**	**5101.6**	**3575.2**	**7597.9**
Stddev	276.	20.2	43.6	88.2
%RSD	.27817	.39625	1.2201	1.1604
#1	99566.	5078.3	3601.7	7644.8
#2	99259.	5112.3	3524.9	7496.2
#3	99014.	5114.3	3599.0	7652.8

Zoom In Zoom Out

Sample Name: mp14277-s1 Acquired: 4/19/2019 5:44:31 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.971**	**1.840**	**1.922**	**1.992**	**3.272**	**3.437**	**3.483**	**2.163**	**.2695**
Stddev	.007	.007	.000	.001	.006	.005	.005	.002	.0001
%RSD	.2265	.4052	.0069	.0647	.1852	.1356	.1382	.1024	.0384
#1	2.969	1.834	1.922	1.992	3.272	3.438	3.482	2.161	.2694
#2	2.965	1.838	1.922	1.993	3.267	3.432	3.478	2.162	.2696
#3	2.978	1.849	1.922	1.990	3.279	3.442	3.487	2.165	.2695

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.068**	**5.870**	**2.015**	**1.943**	**4.571**	**1.877**	**1.175**	**130.7**	**55.79**
Stddev	.002	.003	.004	.005	.008	.001	.001	.2	.13
%RSD	.1181	.0489	.1999	.2342	.1731	.0664	.1000	.1681	.2320
#1	2.068	5.866	2.019	1.939	4.568	1.877	1.173	130.5	55.64
#2	2.065	5.870	2.011	1.948	4.566	1.878	1.175	130.8	55.88
#3	2.070	5.872	2.017	1.943	4.580	1.875	1.176	130.9	55.85

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**149.1**	**52.32**	**41.25**	**49.10**	**1.906**	**1.880**	**1.946**	**2.218**	**2.320**
Stddev	.5	.21	.11	.09	.003	.002	.017	.002	.008
%RSD	.3516	.4068	.2784	.1886	.1335	.0773	.8837	.0852	.3326
#1	148.9	52.13	41.15	49.02	1.908	1.879	1.961	2.221	2.317
#2	148.8	52.28	41.22	49.08	1.903	1.882	1.951	2.217	2.314
#3	149.7	52.55	41.38	49.20	1.906	1.879	1.928	2.217	2.328

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.352**	**1.088**	**1.818**	**42.18**	**.0148**	**.1134**	F **15.85**
Stddev	.007	.001	.002	.04	.0015	.0017	.04
%RSD	.1712	.0854	.1068	.0917	9.992	1.542	.2354
#1	4.356	1.089	1.818	42.16	.0153	.1114	15.83
#2	4.344	1.089	1.816	42.22	.0131	.1141	15.89
#3	4.357	1.087	1.820	42.15	.0159	.1146	15.82

Zoom In Zoom Out

Sample Name: mp14277-s1 Acquired: 4/19/2019 5:44:31 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101070.**	**5318.1**	**3662.9**	**7333.1**
Stddev	214.	25.3	2.6	3.0
%RSD	.21154	.47646	.07040	.04047
#1	101050.	5345.5	3661.3	7333.7
#2	101290.	5313.5	3661.7	7329.8
#3	100860.	5295.4	3665.9	7335.6

Zoom In Zoom Out

Sample Name: mp14277-s2 Acquired: 4/19/2019 5:49:32 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.928**	**1.836**	**1.927**	**1.994**	**3.240**	**3.349**	**3.445**	**2.165**	**.2692**
Stddev	.002	.005	.017	.015	.003	.005	.002	.016	.0004
%RSD	.0629	.2868	.8931	.7555	.1053	.1589	.0471	.7390	.1629
#1	2.929	1.841	1.920	1.985	3.243	3.343	3.444	2.156	.2695
#2	2.926	1.831	1.947	2.012	3.240	3.352	3.447	2.183	.2694
#3	2.928	1.835	1.915	1.986	3.236	3.352	3.444	2.155	.2687

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.067**	**5.849**	**2.024**	**1.943**	**4.551**	**1.881**	**1.195**	**128.0**	**54.40**
Stddev	.003	.053	.019	.019	.029	.018	.012	.0	.11
%RSD	.1444	.9046	.9283	.9783	.6425	.9645	1.019	.0204	.1993
#1	2.064	5.838	2.014	1.936	4.537	1.873	1.189	128.0	54.53
#2	2.070	5.906	2.046	1.965	4.584	1.902	1.209	128.1	54.35
#3	2.066	5.802	2.012	1.929	4.531	1.868	1.187	128.0	54.33

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**149.2**	**51.26**	**41.03**	**48.11**	**1.929**	**1.886**	**1.741**	**2.218**	**2.305**
Stddev	.5	.35	.06	.01	.016	.018	.012	.021	.001
%RSD	.3193	.6853	.1529	.0304	.8381	.9283	.6695	.9483	.0514
#1	149.7	51.58	41.06	48.12	1.921	1.877	1.741	2.212	2.306
#2	148.8	50.89	41.07	48.09	1.947	1.906	1.753	2.241	2.305
#3	149.0	51.31	40.96	48.12	1.917	1.874	1.729	2.201	2.304

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.299**	**1.067**	**1.821**	**45.29**	**.0153**	**.1131**	F **15.51**
Stddev	.003	.009	.000	.54	.0012	.0007	.19
%RSD	.0606	.8679	.0106	1.190	8.062	.5982	1.235
#1	4.296	1.061	1.821	45.12	.0162	.1125	15.44
#2	4.301	1.077	1.821	45.90	.0158	.1139	15.72
#3	4.298	1.061	1.821	44.86	.0139	.1130	15.36

Zoom In Zoom Out

Sample Name: mp14277-s2 Acquired: 4/19/2019 5:49:32 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**101130.**	**5367.6**	**3644.8**	**7322.0**
Stddev	152.	34.1	29.9	50.3
%RSD	.14996	.63531	.82056	.68691
#1	101020.	5332.7	3655.3	7350.1
#2	101050.	5400.8	3611.0	7263.9
#3	101300.	5369.4	3667.9	7352.0

Zoom In Zoom Out

Sample Name: jc86246-35 Acquired: 4/19/2019 5:54:34 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.088**	**.0060**	**.0614**	**.0603**	**1.505**	**1.549**	**1.767**	**.2882**	**.0360**
Stddev	.002	.0002	.0002	.0004	.003	.003	.002	.0004	.0006
%RSD	.1670	3.004	.2617	.7208	.2286	.1793	.1360	.1226	1.739
#1	1.086	.0058	.0612	.0608	1.507	1.546	1.770	.2878	.0366
#2	1.090	.0061	.0615	.0602	1.507	1.550	1.766	.2882	.0359
#3	1.087	.0060	.0614	.0600	1.501	1.551	1.766	.2884	.0354

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2639**	**4.371**	**.0955**	**-.0014**	**2.791**	**.0053**	**.0025**	**85.25**	**32.48**
Stddev	.0006	.018	.0011	.0003	.006	.0021	.0007	.15	.08
%RSD	.2337	.4014	1.162	24.18	.2220	40.76	29.41	.1707	.2414
#1	.2634	4.385	.0962	-.0017	2.796	.0061	.0017	85.10	32.55
#2	.2636	4.376	.0942	-.0011	2.793	.0028	.0026	85.39	32.50
#3	.2646	4.351	.0960	-.0015	2.784	.0069	.0032	85.26	32.40

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**131.0**	**29.01**	**12.00**	**26.03**	**.0904**	**.0214**	**1.714**	**.4023**	**.4221**
Stddev	.3	.09	.02	.05	.0009	.0001	.007	.0039	.0017
%RSD	.2017	.2952	.2029	.2102	1.027	.3625	.4031	.9779	.4075
#1	130.9	29.02	11.97	26.00	.0913	.0215	1.720	.4067	.4213
#2	131.3	29.08	12.01	26.09	.0894	.0214	1.716	.4010	.4241
#3	130.8	28.91	12.01	26.00	.0904	.0214	1.707	.3992	.4209

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.301**	**.0278**	**.0846**	**46.78**	**.0141**	**.1094**	F **15.19**
Stddev	.002	.0007	.0001	.22	.0011	.0008	.09
%RSD	.0983	2.391	.0894	.4642	7.561	.7518	.5601
#1	2.303	.0270	.0847	46.94	.0151	.1100	15.25
#2	2.303	.0282	.0845	46.86	.0130	.1085	15.23
#3	2.299	.0281	.0846	46.53	.0142	.1097	15.10

Zoom In Zoom Out

Sample Name: jc86246-35 Acquired: 4/19/2019 5:54:34 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102780.**	**5368.4**	**3706.0**	**7592.3**
Stddev	217.	2.9	8.0	10.0
%RSD	.21090	.05436	.21585	.13163
#1	102580.	5365.6	3702.4	7584.9
#2	102740.	5371.4	3700.4	7588.2
#3	103010.	5368.3	3715.1	7603.7

Zoom In Zoom Out

Sample Name: mp14277-sd1 Acquired: 4/19/2019 5:59:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.167**	**.0055**	**.0638**	**.0623**	**1.625**	**1.575**	**1.922**	**.2999**	**.0330**
Stddev	.001	.0003	.0004	.0007	.008	.001	.005	.0026	.0007
%RSD	.0740	5.322	.6284	1.073	.5104	.0771	.2463	.8826	2.207
#1	1.167	.0054	.0634	.0628	1.633	1.576	1.924	.3028	.0337
#2	1.167	.0053	.0642	.0615	1.617	1.573	1.916	.2992	.0330
#3	1.166	.0058	.0638	.0625	1.624	1.575	1.925	.2977	.0323

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2819**	**4.764**	**.0997**	**-.0004**	**2.937**	**.0062**	**.0063**	**91.68**	**35.80**
Stddev	.0017	.017	.0059	.0030	.004	.0042	.0067	.21	.11
%RSD	.6151	.3474	5.892	758.4	.1273	67.25	107.2	.2269	.3130
#1	.2836	4.780	.0981	.0013	2.935	.0034	.0129	91.50	35.67
#2	.2820	4.747	.1062	-.0038	2.941	.0042	-.0006	91.91	35.89
#3	.2801	4.765	.0948	.0014	2.934	.0110	.0066	91.63	35.83

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**146.6**	**31.50**	**12.60**	**27.72**	**.0995**	**.0226**	**1.858**	**.4373**	**.4567**
Stddev	.2	.28	.12	.13	.0032	.0011	.001	.0010	.0011
%RSD	.1680	.8736	.9356	.4820	3.220	4.858	.0262	.2271	.2502
#1	146.4	31.69	12.50	27.87	.1006	.0226	1.858	.4375	.4562
#2	146.6	31.19	12.73	27.60	.1021	.0237	1.858	.4362	.4580
#3	146.9	31.64	12.58	27.70	.0959	.0215	1.857	.4382	.4559

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.463**	**.0506**	**.0902**	**48.73**	**.0129**	**.1202**	**16.41**
Stddev	.006	.0026	.0004	.07	.0046	.0047	.04
%RSD	.2596	5.213	.4241	.1464	35.34	3.936	.2189
#1	2.464	.0476	.0903	48.81	.0121	.1197	16.45
#2	2.456	.0519	.0905	48.70	.0178	.1158	16.39
#3	2.469	.0524	.0898	48.68	.0088	.1252	16.39

Zoom In Zoom Out

Sample Name: mp14277-sd1 Acquired: 4/19/2019 5:59:46 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102580.**	**5156.0**	**3718.5**	**8011.7**
Stddev	311.	15.3	7.1	10.7
%RSD	.30290	.29621	.19213	.13317
#1	102530.	5173.5	3719.7	8014.1
#2	102920.	5145.2	3724.9	8020.9
#3	102300.	5149.4	3710.8	8000.0

Zoom In Zoom Out

Sample Name: jc86246-22 Acquired: 4/19/2019 6:05:03 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1798**	**.0024**	**.0015**	**.0309**	**.3175**	**.4839**	**.8188**	**.0952**	**.0014**
Stddev	.0002	.0002	.0001	.0002	.0003	.0010	.0010	.0009	.0004
%RSD	.1245	7.317	7.399	.7642	.1081	.1981	.1176	.9108	25.30
#1	.1799	.0025	.0015	.0309	.3172	.4849	.8184	.0961	.0018
#2	.1798	.0026	.0015	.0306	.3174	.4837	.8199	.0943	.0015
#3	.1795	.0022	.0013	.0311	.3179	.4830	.8180	.0953	.0010

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0998**	**.7907**	**.1114**	**-.0001**	**.5363**	**-.0002**	**.0014**	**48.18**	**7.580**
Stddev	.0005	.0027	.0014	.0026	.0029	.0014	.0012	.04	.017
%RSD	.5168	.3356	1.253	2529.	.5341	730.6	84.81	.0854	.2223
#1	.0997	.7928	.1110	.0028	.5392	-.0010	.0028	48.19	7.569
#2	.1003	.7877	.1102	-.0012	.5335	-.0010	.0004	48.13	7.571
#3	.0993	.7917	.1129	-.0020	.5362	.0014	.0011	48.21	7.599

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**88.91**	**16.82**	**7.865**	**5.947**	**.0405**	**.0030**	**1.587**	**.2924**	**.0805**
Stddev	.05	.05	.016	.017	.0007	.0002	.010	.0015	.0003
%RSD	.0611	.3237	.2010	.2911	1.657	7.256	.6055	.5292	.3719
#1	88.87	16.77	7.857	5.953	.0398	.0031	1.597	.2941	.0802
#2	88.89	16.81	7.856	5.927	.0404	.0028	1.578	.2910	.0804
#3	88.97	16.88	7.884	5.960	.0412	.0032	1.584	.2922	.0808

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.350**	**.0055**	**.0338**	**45.10**	**.0021**	**.0954**	**1.886**
Stddev	.002	.0007	.0002	.05	.0013	.0002	.009
%RSD	.1791	12.20	.6489	.1078	62.08	.1975	.4766
#1	1.352	.0062	.0338	45.14	.0016	.0952	1.894
#2	1.351	.0053	.0340	45.05	.0035	.0954	1.876
#3	1.347	.0049	.0335	45.10	.0011	.0956	1.887

Zoom In Zoom Out

Sample Name: jc86246-22 Acquired: 4/19/2019 6:05:03 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102170.**	**5219.3**	**3711.7**	**7869.1**
Stddev	242.	5.1	2.9	5.3
%RSD	.23697	.09864	.07838	.06779
#1	102380.	5215.4	3709.3	7864.0
#2	101910.	5225.1	3714.9	7874.7
#3	102240.	5217.3	3710.9	7868.8

Zoom In Zoom Out

Sample Name: jc86246-23 Acquired: 4/19/2019 6:10:19 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6179**	**.0039**	**.0218**	**.0461**	**1.342**	**1.074**	**1.263**	**.2053**	**.0135**
Stddev	.0014	.0001	.0001	.0003	.002	.001	.001	.0005	.0004
%RSD	.2278	1.802	.3063	.6616	.1607	.0755	.0828	.2353	3.301
#1	.6163	.0039	.0218	.0461	1.341	1.075	1.264	.2054	.0131
#2	.6190	.0039	.0218	.0458	1.340	1.073	1.262	.2048	.0139
#3	.6183	.0038	.0217	.0464	1.344	1.075	1.264	.2058	.0135

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1891**	**2.061**	**.1534**	**.0006**	**1.122**	**.0052**	**.0008**	**60.58**	**16.06**
Stddev	.0002	.004	.0016	.0009	.003	.0013	.0010	.10	.02
%RSD	.0851	.2100	1.040	156.4	.2571	24.97	131.5	.1709	.1220
#1	.1893	2.065	.1535	-.0004	1.124	.0037	-.0004	60.46	16.07
#2	.1891	2.057	.1517	.0013	1.119	.0059	.0016	60.63	16.08
#3	.1890	2.061	.1549	.0009	1.124	.0059	.0011	60.64	16.04

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**117.8**	**25.94**	**11.88**	**19.54**	**.0935**	**.0142**	**1.522**	**.4353**	**.2153**
Stddev	.4	.09	.01	.07	.0006	.0003	.002	.0017	.0013
%RSD	.3444	.3405	.0897	.3468	.6040	1.887	.1189	.3950	.6015
#1	117.4	25.88	11.88	19.47	.0941	.0142	1.521	.4355	.2138
#2	118.1	26.04	11.89	19.56	.0930	.0140	1.521	.4334	.2161
#3	117.9	25.91	11.87	19.60	.0934	.0145	1.524	.4369	.2160

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.901**	**.0097**	**.0484**	**63.17**	**.0051**	**.1096**	**4.094**
Stddev	.002	.0009	.0000	.27	.0007	.0007	.019
%RSD	.0838	9.549	.0810	.4215	13.56	.5964	.4567
#1	1.901	.0087	.0484	63.47	.0052	.1089	4.115
#2	1.899	.0098	.0483	62.98	.0044	.1099	4.081
#3	1.902	.0105	.0484	63.06	.0058	.1101	4.086

Zoom In Zoom Out

Sample Name: jc86246-23 Acquired: 4/19/2019 6:10:19 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102680.**	**5315.0**	**3707.6**	**7709.0**
Stddev	242.	16.2	3.9	3.4
%RSD	.23573	.30410	.10404	.04447
#1	102800.	5314.8	3704.5	7705.5
#2	102830.	5298.9	3711.9	7712.4
#3	102400.	5331.2	3706.5	7709.0

Zoom In Zoom Out

Sample Name: jc86246-24 Acquired: 4/19/2019 6:15:33 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5134**	**.0041**	**.0158**	**.0488**	**.6981**	**.7184**	**1.314**	**.1846**	**.0115**
Stddev	.0006	.0001	.0002	.0003	.0010	.0015	.003	.0005	.0002
%RSD	.1142	3.003	1.368	.5950	.1473	.2158	.1957	.2912	1.569
#1	.5129	.0040	.0161	.0492	.6973	.7186	1.311	.1852	.0117
#2	.5134	.0042	.0156	.0486	.6977	.7167	1.315	.1842	.0113
#3	.5141	.0042	.0159	.0487	.6993	.7198	1.316	.1843	.0115

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1923**	**2.024**	**.0691**	**-.0000**	**.9527**	**.0014**	**.0000**	**66.90**	**21.25**
Stddev	.0002	.004	.0016	.0002	.0015	.0010	.0011	.10	.09
%RSD	.1080	.1749	2.387	2538.	.1527	68.38	2189.	.1458	.4391
#1	.1921	2.028	.0685	.0002	.9541	.0024	-.0011	66.94	21.34
#2	.1924	2.023	.0679	.0001	.9529	.0015	.0002	66.78	21.15
#3	.1924	2.021	.0710	-.0003	.9512	.0004	.0010	66.97	21.26

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**130.3**	**30.94**	**13.11**	**23.45**	**.1118**	**.0149**	**1.524**	**.2524**	**.2090**
Stddev	.3	.05	.04	.07	.0015	.0000	.004	.0008	.0006
%RSD	.2427	.1768	.2905	.2926	1.375	.2964	.2432	.3305	.3057
#1	130.4	31.00	13.14	23.47	.1106	.0149	1.526	.2520	.2083
#2	129.9	30.91	13.07	23.37	.1114	.0149	1.526	.2534	.2093
#3	130.4	30.90	13.12	23.50	.1136	.0148	1.520	.2519	.2095

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.159**	**.0103**	**.0696**	**63.33**	**.0061**	**.1156**	**4.024**
Stddev	.001	.0004	.0001	.15	.0017	.0009	.008
%RSD	.0651	3.745	.1066	.2308	28.00	.7860	.2020
#1	2.158	.0100	.0697	63.38	.0041	.1165	4.025
#2	2.158	.0108	.0696	63.44	.0069	.1154	4.031
#3	2.160	.0102	.0696	63.16	.0072	.1148	4.015

Zoom In Zoom Out

Sample Name: jc86246-24 Acquired: 4/19/2019 6:15:33 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102570.**	**5327.4**	**3704.9**	**7651.0**
Stddev	186.	48.6	.1	12.3
%RSD	.18173	.91318	.00356	.16094
#1	102740.	5288.6	3704.9	7645.6
#2	102600.	5382.0	3704.7	7642.3
#3	102380.	5311.6	3705.0	7665.1

Zoom In Zoom Out

Sample Name: jc86246-25 Acquired: 4/19/2019 6:20:47 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5285**	**.0043**	**.0146**	**.0504**	**.6486**	**.7094**	**1.479**	**.1912**	**.0129**
Stddev	.0011	.0001	.0002	.0001	.0019	.0016	.003	.0004	.0003
%RSD	.2085	1.721	1.243	.2442	.2919	.2212	.1797	.2022	1.956
#1	.5297	.0042	.0147	.0504	.6503	.7109	1.481	.1910	.0129
#2	.5285	.0044	.0144	.0503	.6466	.7078	1.479	.1910	.0132
#3	.5275	.0043	.0147	.0506	.6488	.7096	1.476	.1917	.0127

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1859**	**1.695**	**.0676**	**-.0016**	**.8718**	**.0031**	**-.0001**	**73.33**	**20.12**
Stddev	.0005	.004	.0012	.0014	.0030	.0016	.0008	.15	.05
%RSD	.2614	.2235	1.845	92.18	.3400	52.59	752.3	.2036	.2730
#1	.1862	1.700	.0689	-.0005	.8731	.0048	.0006	73.50	20.16
#2	.1861	1.693	.0677	-.0032	.8684	.0015	.0000	73.21	20.14
#3	.1853	1.693	.0664	-.0009	.8739	.0030	-.0009	73.27	20.06

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**140.8**	**33.46**	**14.93**	**25.02**	**.1115**	**.0124**	**1.623**	**.2307**	**.1859**
Stddev	.5	.14	.08	.02	.0002	.0001	.005	.0007	.0004
%RSD	.3810	.4333	.5167	.0742	.1629	.6597	.3313	.3204	.2269
#1	141.2	33.39	15.00	25.04	.1116	.0124	1.629	.2304	.1857
#2	141.1	33.63	14.85	25.01	.1113	.0124	1.620	.2316	.1864
#3	140.2	33.36	14.95	25.01	.1116	.0123	1.621	.2302	.1856

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.190**	**.0114**	**.0718**	**76.32**	**.0065**	**.1304**	**3.800**
Stddev	.003	.0007	.0003	.21	.0003	.0024	.024
%RSD	.1125	5.840	.4445	.2805	3.976	1.847	.6381
#1	2.193	.0116	.0716	76.46	.0067	.1331	3.828
#2	2.188	.0120	.0721	76.43	.0066	.1285	3.790
#3	2.190	.0107	.0715	76.08	.0062	.1296	3.782

Zoom In Zoom Out

Sample Name: jc86246-25 Acquired: 4/19/2019 6:20:47 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102350.**	**5308.1**	**3703.6**	**7636.9**
Stddev	144.	29.7	5.8	5.8
%RSD	.14030	.55863	.15610	.07613
#1	102190.	5274.4	3699.4	7630.5
#2	102470.	5319.4	3701.1	7641.9
#3	102370.	5330.4	3710.2	7638.2

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 6:26:03 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.991**	**1.957**	**1.969**	**2.012**	**1.953**	**1.924**	**1.954**	**1.975**	**.2382**
Stddev	.004	.005	.001	.001	.002	.005	.001	.001	.0002
%RSD	.2104	.2374	.0591	.0523	.0928	.2494	.0651	.0357	.0832
#1	1.988	1.953	1.968	2.014	1.955	1.925	1.955	1.976	.2383
#2	1.990	1.956	1.969	2.012	1.952	1.928	1.954	1.975	.2384
#3	1.996	1.962	1.970	2.012	1.951	1.919	1.953	1.975	.2380
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.920**	**1.962**	**1.993**	**2.047**	**2.006**	**2.008**	**2.041**	**39.08**	**39.43**
Stddev	.002	.001	.004	.002	.006	.002	.001	.04	.03
%RSD	.1202	.0446	.1736	.1133	.3086	.0984	.0244	.0932	.0815
#1	1.923	1.962	1.991	2.044	2.001	2.010	2.042	39.12	39.40
#2	1.919	1.963	1.996	2.047	2.013	2.007	2.041	39.04	39.43
#3	1.919	1.961	1.990	2.049	2.004	2.007	2.041	39.09	39.47
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.88**	**37.76**	**39.61**	**40.11**	**2.071**	**2.010**	**5.185**	**2.004**	**2.024**
Stddev	.14	.31	.12	.09	.001	.000	.007	.002	.007
%RSD	.3551	.8317	.2947	.2331	.0647	.0026	.1280	.1082	.3401
#1	38.84	37.51	39.56	40.03	2.070	2.010	5.192	2.006	2.020
#2	38.76	37.65	39.52	40.08	2.072	2.010	5.183	2.005	2.021
#3	39.03	38.11	39.74	40.21	2.072	2.010	5.180	2.002	2.032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 6:26:03 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.897**	**1.964**	**1.919**	**2.055**	**2.095**	**1.965**	**1.985**
Stddev	.001	.002	.002	.006	.001	.003	.003
%RSD	.0356	.1237	.1056	.2868	.0594	.1660	.1617
#1	1.898	1.962	1.920	2.049	2.094	1.966	1.982
#2	1.897	1.967	1.919	2.061	2.096	1.968	1.988
#3	1.897	1.964	1.916	2.055	2.094	1.962	1.987
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**97361.**	**4986.7**	**3569.0**	**7434.8**
Stddev	66.	15.3	3.5	4.3
%RSD	.06819	.30585	.09856	.05803
#1	97344.	4990.2	3565.0	7430.5
#2	97304.	4999.9	3570.4	7434.7
#3	97434.	4970.0	3571.6	7439.1

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 6:31:05 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0000**	**-.0000**	**.0001**	**.0003**	**-.0009**	**-.0000**	**.0001**	**-.0016**
Stddev	.0002	.0002	.0001	.0000	.0001	.0003	.0000	.0001	.0002
%RSD	72.93	1985.	292.7	26.38	48.09	35.06	77.47	90.20	9.399
#1	-.0000	-.0002	-.0001	.0002	.0004	-.0012	-.0000	.0000	-.0018
#2	-.0004	.0000	-.0001	.0002	.0001	-.0009	-.0001	.0001	-.0016
#3	-.0004	.0001	.0001	.0001	.0004	-.0005	-.0001	.0001	-.0015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0000**	**.0004**	**.0002**	**-.0001**	**-.0016**	**.0009**	**.0012**	**-.0047**
Stddev	.0000	.0002	.0005	.0003	.0002	.0016	.0011	.0125	.0018
%RSD	19.11	342.7	129.4	167.7	260.3	98.66	127.9	1036.	38.24
#1	.0003	.0002	.0008	.0001	-.0001	-.0033	.0004	-.0032	-.0030
#2	.0002	-.0000	-.0001	.0005	-.0003	-.0003	.0001	.0153	-.0066
#3	.0002	-.0001	.0004	-.0001	.0001	-.0011	.0021	-.0085	-.0045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0037**	**-.0112**	**.0747**	**.0262**	**.0017**	**.0002**	**.0025**	**-.0004**	**.0001**
Stddev	.0020	.0250	.0228	.0075	.0004	.0001	.0004	.0004	.0000
%RSD	54.80	222.3	30.50	28.69	23.72	52.85	16.62	95.98	37.99
#1	.0016	.0175	.0992	.0313	.0018	.0003	.0022	-.0003	.0001
#2	.0037	-.0231	.0542	.0176	.0012	.0001	.0030	-.0001	.0001
#3	.0056	-.0280	.0706	.0297	.0019	.0003	.0025	-.0008	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 6:31:05 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0018**	**.0001**	**.0063**	**-.0001**	**.0026**	**.0097**
Stddev	.0002	.0004	.0000	.0018	.0008	.0011	.0003
%RSD	53.22	19.53	38.75	28.62	621.3	42.32	2.775
#1	-.0003	.0022	.0001	.0049	.0008	.0030	.0100
#2	-.0003	.0015	.0002	.0084	-.0006	.0013	.0095
#3	-.0007	.0018	.0001	.0058	-.0005	.0034	.0096
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102230.**	**5014.5**	**3680.8**	**8300.1**
Stddev	229.	9.8	2.4	2.0
%RSD	.22368	.19560	.06400	.02383
#1	102480.	5023.9	3681.8	8298.9
#2	102040.	5015.2	3678.1	8299.0
#3	102180.	5004.4	3682.5	8302.4

Zoom In Zoom Out

Sample Name: jc86246-26 Acquired: 4/19/2019 6:36:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3308**	**.0021**	**.0096**	**.0266**	**.3206**	**.3511**	**1.082**	**.0794**	**.0016**
Stddev	.0009	.0001	.0002	.0002	.0012	.0014	.004	.0005	.0001
%RSD	.2796	5.853	1.666	.8457	.3898	.4075	.3207	.6880	8.088
#1	.3312	.0021	.0096	.0264	.3219	.3526	1.086	.0788	.0015
#2	.3314	.0019	.0098	.0268	.3194	.3497	1.079	.0795	.0016
#3	.3297	.0022	.0095	.0267	.3205	.3511	1.083	.0799	.0017

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1021**	**1.877**	**.0382**	**-.0004**	**.8043**	**.0034**	**.0043**	**20.68**	**21.78**
Stddev	.0001	.002	.0005	.0005	.0036	.0014	.0006	.12	.06
%RSD	.1442	.1221	1.242	151.2	.4511	40.97	12.92	.5620	.2700
#1	.1022	1.877	.0386	.0002	.8028	.0033	.0046	20.77	21.80
#2	.1020	1.875	.0377	-.0008	.8016	.0020	.0037	20.72	21.83
#3	.1022	1.879	.0381	-.0005	.8084	.0048	.0047	20.55	21.72

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**79.25**	**17.18**	**5.065**	**31.86**	**.2256**	**.0111**	**1.481**	**.2274**	**.3291**
Stddev	.39	.09	.031	.06	.0006	.0002	.002	.0014	.0008
%RSD	.4953	.5381	.6039	.1947	.2819	1.489	.1417	.6096	.2382
#1	79.44	17.14	5.080	31.88	.2251	.0110	1.480	.2275	.3297
#2	79.50	17.28	5.084	31.90	.2253	.0111	1.484	.2259	.3295
#3	78.80	17.11	5.029	31.79	.2263	.0113	1.480	.2287	.3282

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8592**	**.0121**	**.0371**	**69.05**	**.0047**	**.0294**	**4.819**
Stddev	.0032	.0002	.0003	.10	.0019	.0012	.012
%RSD	.3698	1.715	.7209	.1376	39.42	4.043	.2535
#1	.8626	.0119	.0373	68.96	.0039	.0280	4.808
#2	.8563	.0123	.0372	69.15	.0034	.0303	4.832
#3	.8587	.0120	.0368	69.03	.0068	.0298	4.818

Zoom In Zoom Out

Sample Name: jc86246-26 Acquired: 4/19/2019 6:36:38 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102110.**	**5223.2**	**3690.0**	**7759.7**
Stddev	478.	28.9	.9	4.3
%RSD	.46813	.55270	.02305	.05490
#1	101700.	5202.1	3690.0	7756.5
#2	102630.	5211.4	3689.2	7764.5
#3	101990.	5256.1	3690.9	7757.9

Zoom In Zoom Out

Sample Name: jc86246-27 Acquired: 4/19/2019 6:41:55 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5251**	**.0028**	**.0142**	**.0450**	**.3879**	**.6295**	**1.612**	**.1580**	**.0095**
Stddev	.0005	.0002	.0001	.0005	.0008	.0016	.001	.0003	.0004
%RSD	.0935	7.647	.6129	1.201	.2104	.2621	.0658	.1791	4.708
#1	.5252	.0026	.0142	.0456	.3880	.6276	1.611	.1578	.0098
#2	.5255	.0029	.0141	.0450	.3887	.6306	1.613	.1583	.0090
#3	.5245	.0029	.0143	.0445	.3871	.6302	1.612	.1579	.0096

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1369**	**2.319**	**.0435**	**-.0002**	**1.146**	**.0049**	**.0016**	**43.75**	**24.60**
Stddev	.0001	.006	.0001	.0006	.003	.0017	.0010	.11	.09
%RSD	.0718	.2604	.3047	321.1	.2717	34.01	64.37	.2525	.3737
#1	.1370	2.325	.0436	.0005	1.147	.0038	.0024	43.87	24.70
#2	.1368	2.317	.0437	-.0005	1.149	.0041	.0020	43.70	24.52
#3	.1368	2.314	.0434	-.0007	1.143	.0068	.0004	43.66	24.57

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**102.8**	**20.78**	**7.393**	**26.13**	**.1466**	**.0100**	**1.545**	**.2383**	**.2628**
Stddev	.3	.04	.048	.02	.0009	.0002	.003	.0002	.0006
%RSD	.3386	.1967	.6430	.0854	.5936	1.523	.1933	.0905	.2300
#1	102.9	20.82	7.358	26.16	.1462	.0098	1.548	.2383	.2630
#2	103.0	20.74	7.447	26.11	.1476	.0101	1.542	.2381	.2632
#3	102.4	20.77	7.375	26.13	.1460	.0101	1.546	.2386	.2621

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.675**	**.0110**	**.0491**	**89.09**	**.0039**	**.0625**	**4.881**
Stddev	.001	.0008	.0001	.19	.0012	.0011	.007
%RSD	.0841	7.105	.2598	.2083	30.79	1.818	.1478
#1	1.673	.0102	.0492	89.09	.0052	.0612	4.889
#2	1.675	.0117	.0490	88.91	.0027	.0632	4.874
#3	1.676	.0112	.0491	89.28	.0039	.0631	4.881

Zoom In Zoom Out

Sample Name: jc86246-27 Acquired: 4/19/2019 6:41:55 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102730.**	**5316.8**	**3716.8**	**7724.9**
Stddev	44.	27.1	9.2	5.2
%RSD	.04323	.50919	.24855	.06780
#1	102770.	5285.6	3722.3	7730.9
#2	102690.	5333.0	3721.9	7721.2
#3	102740.	5331.9	3706.1	7722.7

Zoom In Zoom Out

Sample Name: jc86246-28 Acquired: 4/19/2019 6:47:11 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5813**	**.0018**	**.0091**	**.0255**	**.2347**	**.3717**	**1.384**	**.0831**	**.0023**
Stddev	.0026	.0000	.0001	.0003	.0008	.0009	.003	.0001	.0008
%RSD	.4465	2.048	1.519	1.169	.3612	.2545	.2356	.1364	32.31
#1	.5808	.0019	.0089	.0251	.2355	.3709	1.383	.0830	.0021
#2	.5841	.0019	.0091	.0256	.2338	.3728	1.381	.0830	.0032
#3	.5789	.0018	.0091	.0257	.2347	.3715	1.388	.0832	.0017

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0952**	**1.622**	**.0307**	**-.0002**	**.9711**	**.0023**	**.0019**	**22.59**	**21.88**
Stddev	.0005	.001	.0001	.0014	.0029	.0004	.0014	.09	.08
%RSD	.5140	.0765	.4682	684.2	.3027	16.11	74.44	.3939	.3694
#1	.0954	1.622	.0306	.0001	.9680	.0022	.0032	22.64	21.91
#2	.0946	1.624	.0306	.0010	.9713	.0020	.0019	22.65	21.95
#3	.0955	1.621	.0309	-.0017	.9739	.0027	.0005	22.49	21.79

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**73.68**	**14.25**	**4.378**	**29.66**	**.1428**	**.0075**	**1.337**	**.1757**	**.2229**
Stddev	.42	.03	.026	.10	.0006	.0002	.005	.0010	.0002
%RSD	.5680	.2338	.5842	.3374	.4421	2.136	.3873	.5445	.1041
#1	73.36	14.27	4.350	29.69	.1435	.0073	1.340	.1766	.2227
#2	74.16	14.25	4.381	29.74	.1426	.0076	1.331	.1747	.2231
#3	73.54	14.21	4.401	29.55	.1423	.0076	1.340	.1759	.2230

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.102**	**.0080**	**.0366**	**71.09**	**.0036**	**.0319**	**3.346**
Stddev	.001	.0005	.0002	.34	.0002	.0015	.014
%RSD	.0818	6.428	.6632	.4712	5.723	4.553	.4150
#1	1.102	.0075	.0366	71.15	.0036	.0329	3.343
#2	1.101	.0086	.0363	70.73	.0034	.0303	3.333
#3	1.103	.0080	.0368	71.40	.0038	.0326	3.361

Zoom In Zoom Out

Sample Name: jc86246-28 Acquired: 4/19/2019 6:47:11 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102500.**	**5266.0**	**3693.0**	**7760.4**
Stddev	220.	18.5	9.3	12.8
%RSD	.21495	.35080	.25061	.16491
#1	102610.	5259.9	3689.3	7758.5
#2	102640.	5251.3	3703.5	7774.0
#3	102240.	5286.7	3686.1	7748.6

Zoom In Zoom Out

Sample Name: jc86246-29 Acquired: 4/19/2019 6:52:28 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6952**	**.0036**	**.0133**	**.0421**	**.3893**	**.6335**	**2.760**	**.1451**	**.0089**
Stddev	.0022	.0001	.0002	.0000	.0006	.0009	.005	.0008	.0003
%RSD	.3162	2.193	1.414	.0227	.1546	.1429	.1868	.5458	3.236
#1	.6973	.0037	.0135	.0421	.3899	.6330	2.758	.1458	.0089
#2	.6955	.0035	.0134	.0421	.3887	.6345	2.766	.1442	.0091
#3	.6929	.0036	.0131	.0421	.3892	.6329	2.757	.1453	.0086

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1703**	**2.220**	**.0453**	**.0000**	**.9535**	**.0039**	**.0032**	**60.85**	**25.07**
Stddev	.0007	.008	.0011	.0005	.0043	.0015	.0003	.13	.05
%RSD	.4091	.3489	2.393	1675.	.4554	38.43	8.811	.2099	.1983
#1	.1709	2.229	.0465	-.0002	.9582	.0044	.0029	60.93	25.12
#2	.1705	2.214	.0444	-.0003	.9497	.0051	.0033	60.92	25.08
#3	.1696	2.216	.0450	.0006	.9525	.0022	.0034	60.71	25.02

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**122.8**	**25.02**	**8.990**	**30.91**	**.1129**	**.0086**	**1.729**	**.2258**	**.2166**
Stddev	.4	.15	.017	.07	.0005	.0004	.017	.0014	.0007
%RSD	.3596	.5830	.1858	.2223	.4863	4.697	.9659	.6210	.3115
#1	123.3	25.17	9.005	30.96	.1132	.0086	1.748	.2269	.2172
#2	122.6	25.00	8.993	30.92	.1123	.0082	1.719	.2242	.2166
#3	122.4	24.88	8.972	30.83	.1132	.0090	1.720	.2262	.2159

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.007**	**.0135**	**.0510**	**49.11**	**.0062**	**.0834**	F **11.05**
Stddev	.002	.0007	.0001	.27	.0007	.0011	.07
%RSD	.0838	4.897	.1607	.5580	11.04	1.270	.6137
#1	2.005	.0130	.0511	49.43	.0054	.0832	11.13
#2	2.008	.0142	.0509	48.95	.0067	.0825	11.01
#3	2.006	.0132	.0510	48.96	.0064	.0846	11.02

Zoom In Zoom Out

Sample Name: jc86246-29 Acquired: 4/19/2019 6:52:28 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102320.**	**5305.4**	**3688.8**	**7655.7**
Stddev	77.	15.1	13.5	22.8
%RSD	.07541	.28551	.36564	.29741
#1	102400.	5288.6	3673.2	7630.5
#2	102310.	5309.8	3697.4	7674.8
#3	102240.	5317.9	3695.7	7661.8

Zoom In Zoom Out

Sample Name: jc86246-30 Acquired: 4/19/2019 6:57:44 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8259**	**.0059**	**.0170**	**.0516**	**.4623**	**.7296**	**3.239**	**.1681**	**.0131**
Stddev	.0025	.0001	.0002	.0002	.0019	.0012	.002	.0003	.0005
%RSD	.3003	1.369	1.152	.3661	.4030	.1623	.0668	.1621	3.557
#1	.8282	.0060	.0171	.0517	.4641	.7292	3.241	.1677	.0133
#2	.8263	.0060	.0171	.0513	.4604	.7309	3.237	.1682	.0126
#3	.8233	.0058	.0168	.0516	.4624	.7286	3.240	.1682	.0135

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1843**	**2.403**	**.0465**	**.0029**	**1.082**	**.0041**	**.0025**	**72.94**	**25.88**
Stddev	.0001	.005	.0007	.0004	.003	.0014	.0002	.06	.08
%RSD	.0522	.2164	1.509	12.45	.2437	33.93	6.406	.0838	.3004
#1	.1844	2.407	.0474	.0033	1.084	.0041	.0027	72.87	25.83
#2	.1842	2.405	.0461	.0025	1.084	.0055	.0024	72.97	25.84
#3	.1844	2.397	.0461	.0028	1.079	.0027	.0024	72.98	25.97

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**133.4**	**28.14**	**10.68**	**29.37**	**.0952**	**.0119**	**1.641**	**.2635**	**.2086**
Stddev	.4	.27	.01	.02	.0001	.0002	.012	.0017	.0002
%RSD	.3143	.9504	.0994	.0735	.1310	1.519	.7354	.6595	.1110
#1	133.8	28.34	10.69	29.35	.0953	.0119	1.655	.2645	.2087
#2	132.9	27.84	10.68	29.39	.0950	.0121	1.635	.2645	.2083
#3	133.5	28.23	10.67	29.37	.0952	.0118	1.632	.2615	.2087

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.266**	**.0133**	**.0589**	**30.85**	**.0068**	**.1005**	F **13.91**
Stddev	.003	.0010	.0003	.05	.0007	.0014	.04
%RSD	.1448	7.776	.4718	.1686	9.681	1.391	.2765
#1	2.263	.0122	.0592	30.90	.0071	.0992	13.95
#2	2.269	.0143	.0588	30.85	.0074	.1004	13.91
#3	2.265	.0132	.0586	30.80	.0061	.1020	13.88

Zoom In Zoom Out

Sample Name: jc86246-30 Acquired: 4/19/2019 6:57:44 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103020.**	**5348.5**	**3718.3**	**7636.7**
Stddev	72.	49.8	6.1	4.6
%RSD	.07024	.93167	.16347	.06030
#1	103080.	5350.8	3723.8	7640.0
#2	103050.	5397.2	3719.3	7631.4
#3	102940.	5297.6	3711.8	7638.7

Zoom In Zoom Out

Sample Name: jc86246-31 Acquired: 4/19/2019 7:02:59 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3275**	**.0031**	**.0094**	**.0390**	**.4294**	**.5528**	**1.131**	**.1529**	**.0069**
Stddev	.0066	.0001	.0002	.0003	.0215	.0265	.053	.0008	.0011
%RSD	2.010	1.664	1.799	.8355	5.003	4.786	4.689	.5417	16.64
#1	.3310	.0031	.0092	.0386	.4539	.5833	1.192	.1521	.0059
#2	.3316	.0030	.0094	.0391	.4142	.5378	1.099	.1538	.0081
#3	.3199	.0031	.0095	.0392	.4200	.5372	1.102	.1528	.0066

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1530**	**1.508**	**.0467**	**.0004**	**.8006**	**.0074**	**.0011**	**48.42**	**19.54**
Stddev	.0075	.006	.0008	.0007	.0052	.0013	.0013	1.05	.43
%RSD	4.913	.3888	1.648	176.5	.6437	17.60	118.4	2.167	2.212
#1	.1616	1.501	.0464	.0005	.7948	.0071	-.0002	49.06	19.74
#2	.1481	1.512	.0476	.0010	.8025	.0088	.0024	48.99	19.84
#3	.1492	1.510	.0461	-.0004	.8046	.0062	.0011	47.21	19.05

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**101.2**	**22.14**	**8.901**	**15.44**	**.0866**	**.0106**	**1.589**	**.1856**	**.1857**
Stddev	2.4	.55	.173	.32	.0004	.0002	.006	.0007	.0038
%RSD	2.376	2.505	1.948	2.104	.4438	1.974	.3733	.3906	2.070
#1	102.4	22.44	9.001	15.62	.0870	.0108	1.590	.1849	.1881
#2	102.7	22.47	9.000	15.63	.0862	.0107	1.595	.1854	.1876
#3	98.41	21.50	8.700	15.07	.0868	.0104	1.583	.1864	.1812

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.866**	**.0070**	**.0507**	**51.46**	**.0056**	**.0824**	**3.359**
Stddev	.092	.0008	.0024	.27	.0009	.0021	.019
%RSD	4.939	11.48	4.663	.5277	15.23	2.499	.5748
#1	1.973	.0075	.0534	51.14	.0064	.0838	3.337
#2	1.814	.0060	.0495	51.62	.0057	.0835	3.367
#3	1.813	.0074	.0491	51.61	.0047	.0801	3.374

Zoom In Zoom Out

Sample Name: jc86246-31 Acquired: 4/19/2019 7:02:59 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**100340.**	**5347.6**	**3715.7**	**7789.0**
Stddev	3932.	109.9	18.9	33.1
%RSD	3.9187	2.0552	.50737	.42433
#1	95800.	5299.8	3737.3	7827.2
#2	102750.	5269.6	3703.1	7768.6
#3	102460.	5473.3	3706.5	7771.3

Zoom In Zoom Out

Sample Name: jc86246-32 Acquired: 4/19/2019 7:08:15 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7829**	**.0040**	**.0509**	**.0526**	**1.164**	**1.272**	**1.269**	**.2607**	**.0237**
Stddev	.0017	.0001	.0001	.0001	.004	.004	.003	.0009	.0006
%RSD	.2118	3.536	.2308	.1173	.3132	.2826	.2402	.3562	2.701
#1	.7839	.0039	.0509	.0526	1.168	1.275	1.273	.2616	.0230
#2	.7838	.0039	.0508	.0527	1.162	1.274	1.268	.2606	.0242
#3	.7810	.0041	.0510	.0525	1.162	1.268	1.267	.2598	.0239

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1878**	**3.276**	**.0775**	**.0002**	**2.048**	**.0038**	**.0021**	**66.46**	**23.74**
Stddev	.0009	.004	.0008	.0010	.001	.0013	.0014	.12	.06
%RSD	.4941	.1154	1.086	528.0	.0541	34.52	63.73	.1803	.2701
#1	.1888	3.281	.0781	-.0010	2.049	.0032	.0033	66.51	23.80
#2	.1870	3.275	.0777	.0008	2.049	.0029	.0007	66.53	23.76
#3	.1875	3.273	.0765	.0007	2.047	.0052	.0024	66.32	23.67

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**101.9**	**24.20**	**10.23**	**25.00**	**.0709**	**.0173**	**1.551**	**.3487**	**.3939**
Stddev	.2	.05	.01	.02	.0003	.0001	.015	.0009	.0001
%RSD	.2176	.2128	.0578	.0907	.4406	.7004	.9752	.2491	.0323
#1	102.2	24.14	10.22	24.99	.0711	.0173	1.563	.3492	.3938
#2	101.9	24.23	10.23	25.03	.0705	.0174	1.556	.3493	.3940
#3	101.8	24.24	10.23	24.98	.0710	.0172	1.534	.3477	.3939

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.842**	**.0156**	**.0469**	**66.16**	**.0087**	**.0931**	F **10.27**
Stddev	.002	.0005	.0003	.14	.0025	.0007	.02
%RSD	.0973	3.120	.5480	.2093	29.12	.7607	.2424
#1	1.844	.0156	.0472	66.30	.0100	.0938	10.29
#2	1.841	.0161	.0467	66.03	.0103	.0924	10.24
#3	1.841	.0151	.0467	66.16	.0058	.0932	10.27

Zoom In Zoom Out

Sample Name: jc86246-32 Acquired: 4/19/2019 7:08:15 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102560.**	**5321.8**	**3702.3**	**7694.2**
Stddev	261.	37.4	3.4	9.0
%RSD	.25496	.70194	.09155	.11656
#1	102270.	5285.1	3700.3	7687.8
#2	102630.	5320.5	3700.4	7690.4
#3	102780.	5359.8	3706.2	7704.4

Zoom In Zoom Out

Sample Name: jc86246-33 Acquired: 4/19/2019 7:13:30 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8082**	**.0044**	**.0476**	**.0481**	**1.274**	**1.420**	**1.321**	**.2595**	**.0266**
Stddev	.0033	.0000	.0012	.0017	.002	.002	.002	.0067	.0003
%RSD	.4091	.4832	2.589	3.473	.1365	.1222	.1777	2.571	1.269
#1	.8047	.0044	.0462	.0462	1.276	1.422	1.324	.2521	.0269
#2	.8113	.0043	.0485	.0494	1.273	1.418	1.320	.2651	.0262
#3	.8085	.0044	.0482	.0488	1.273	1.421	1.321	.2614	.0266

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2070**	**3.342**	**.1099**	**.0010**	**2.166**	**.0048**	**.0017**	**72.36**	**23.03**
Stddev	.0006	.090	.0031	.0009	.050	.0017	.0015	.29	.10
%RSD	.2909	2.706	2.839	89.97	2.306	36.32	89.48	.3969	.4221
#1	.2075	3.242	.1063	.0015	2.110	.0031	.0000	72.02	22.92
#2	.2064	3.417	.1123	-.0000	2.207	.0066	.0030	72.53	23.11
#3	.2072	3.368	.1109	.0014	2.181	.0047	.0021	72.51	23.07

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**110.8**	**25.57**	**11.68**	**29.67**	**.0801**	**.0165**	**1.583**	**.3703**	**.3636**
Stddev	.4	.24	.09	.10	.0023	.0006	.042	.0106	.0012
%RSD	.3434	.9336	.7360	.3467	2.890	3.659	2.659	2.873	.3171
#1	110.4	25.30	11.58	29.56	.0779	.0159	1.540	.3588	.3625
#2	111.1	25.74	11.72	29.75	.0825	.0171	1.624	.3798	.3648
#3	110.9	25.66	11.74	29.72	.0800	.0165	1.585	.3722	.3636

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.928**	**.0183**	**.0521**	**46.44**	**.0121**	**.0962**	F **11.95**
Stddev	.004	.0010	.0000	1.23	.0006	.0009	.32
%RSD	.2272	5.259	.0489	2.653	5.017	.9289	2.717
#1	1.933	.0172	.0521	45.05	.0114	.0957	11.58
#2	1.925	.0190	.0521	47.37	.0126	.0956	12.19
#3	1.926	.0187	.0521	46.91	.0124	.0972	12.08

Zoom In Zoom Out

Sample Name: jc86246-33 Acquired: 4/19/2019 7:13:30 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102720.**	**5351.4**	**3735.9**	**7709.8**
Stddev	117.	41.5	89.1	160.6
%RSD	.11360	.77473	2.3838	2.0836
#1	102590.	5398.7	3834.8	7888.8
#2	102780.	5333.8	3662.0	7578.2
#3	102790.	5321.6	3711.0	7662.4

Zoom In Zoom Out

Sample Name: jc86246-34 Acquired: 4/19/2019 7:18:44 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.039**	**.0055**	**.0484**	**.0624**	**1.300**	**1.394**	**1.779**	**.2834**	**.0322**
Stddev	.001	.0001	.0002	.0002	.002	.001	.003	.0005	.0004
%RSD	.1235	1.488	.4402	.2775	.1383	.0533	.1393	.1816	1.165
#1	1.038	.0054	.0486	.0626	1.300	1.394	1.779	.2840	.0321
#2	1.038	.0055	.0485	.0623	1.299	1.395	1.776	.2831	.0326
#3	1.040	.0055	.0482	.0623	1.302	1.394	1.781	.2831	.0318

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2573**	**4.056**	**.0911**	**.0004**	**2.952**	**.0046**	**.0020**	**88.95**	**26.35**
Stddev	.0000	.004	.0005	.0009	.004	.0014	.0007	.17	.05
%RSD	.0161	.0946	.5399	256.4	.1351	31.41	33.37	.1856	.1819
#1	.2572	4.058	.0905	.0012	2.951	.0044	.0014	88.79	26.33
#2	.2573	4.057	.0912	.0005	2.956	.0032	.0019	88.94	26.31
#3	.2573	4.051	.0915	-.0006	2.948	.0061	.0028	89.12	26.40

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**125.0**	**28.47**	**11.07**	**26.90**	**.0877**	**.0178**	**1.642**	**.5039**	**.3886**
Stddev	.3	.06	.03	.05	.0006	.0002	.007	.0006	.0003
%RSD	.2728	.1939	.2772	.2014	.6456	1.017	.4520	.1130	.0861
#1	124.7	28.41	11.05	26.84	.0883	.0180	1.648	.5045	.3883
#2	125.3	28.51	11.11	26.92	.0871	.0178	1.644	.5037	.3890
#3	125.1	28.49	11.06	26.95	.0876	.0177	1.634	.5035	.3885

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.402**	**.0238**	**.0694**	**36.20**	**.0116**	**.1083**	F **16.01**
Stddev	.004	.0014	.0002	.16	.0009	.0014	.08
%RSD	.1694	5.926	.2182	.4528	7.504	1.327	.4889
#1	2.404	.0236	.0695	36.37	.0125	.1092	16.08
#2	2.397	.0225	.0692	36.19	.0107	.1090	16.00
#3	2.403	.0253	.0694	36.04	.0116	.1066	15.93

Zoom In Zoom Out

Sample Name: jc86246-34 Acquired: 4/19/2019 7:18:44 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103450.**	**5404.4**	**3735.3**	**7624.1**
Stddev	345.	21.1	2.9	7.6
%RSD	.33372	.39051	.07807	.09975
#1	103370.	5427.9	3731.9	7615.3
#2	103830.	5398.3	3737.4	7629.0
#3	103160.	5387.0	3736.5	7627.9

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 7:23:58 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.993**	**1.948**	**1.963**	**2.006**	**1.945**	**1.926**	**1.946**	**1.968**	**.2382**
Stddev	.004	.007	.002	.002	.006	.003	.003	.001	.0004
%RSD	.1736	.3848	.0935	.0889	.2905	.1477	.1404	.0380	.1696
#1	1.997	1.956	1.964	2.007	1.952	1.923	1.949	1.969	.2377
#2	1.990	1.948	1.961	2.007	1.941	1.929	1.944	1.968	.2383
#3	1.991	1.941	1.962	2.004	1.943	1.926	1.945	1.967	.2384
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.911**	**1.951**	**1.991**	**2.039**	**1.998**	**2.008**	**2.039**	**39.04**	**39.23**
Stddev	.001	.001	.005	.010	.003	.003	.003	.07	.13
%RSD	.0467	.0676	.2518	.4724	.1512	.1505	.1436	.1890	.3279
#1	1.911	1.951	1.996	2.050	2.001	2.012	2.042	39.13	39.37
#2	1.910	1.950	1.990	2.033	1.995	2.008	2.037	39.02	39.20
#3	1.911	1.953	1.986	2.034	1.997	2.006	2.039	38.98	39.12
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.76**	**37.47**	**39.50**	**39.97**	**2.064**	**2.004**	**5.179**	**1.993**	**2.025**
Stddev	.13	.34	.17	.12	.001	.000	.001	.002	.006
%RSD	.3236	.9050	.4389	.3003	.0607	.0069	.0261	.0769	.2943
#1	38.90	37.75	39.69	40.10	2.063	2.004	5.179	1.995	2.032
#2	38.73	37.57	39.46	39.87	2.063	2.004	5.178	1.992	2.023
#3	38.65	37.09	39.34	39.94	2.065	2.004	5.181	1.992	2.021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 7:23:58 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.892**	**1.958**	**1.915**	**2.040**	**2.093**	**1.959**	**1.978**
Stddev	.003	.002	.002	.009	.002	.003	.013
%RSD	.1691	.1186	.0919	.4462	.0838	.1658	.6723
#1	1.895	1.960	1.916	2.051	2.094	1.959	1.994
#2	1.889	1.959	1.913	2.035	2.093	1.962	1.971
#3	1.892	1.956	1.916	2.035	2.091	1.955	1.971
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**97897.**	**5014.5**	**3577.3**	**7449.9**
Stddev	237.	36.2	1.4	5.0
%RSD	.24200	.72268	.03810	.06747
#1	97624.	4975.5	3578.5	7444.4
#2	98050.	5021.0	3577.5	7454.2
#3	98017.	5047.1	3575.9	7451.2

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 7:29:01 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0000**	**.0001**	**-.0000**	**.0001**	**-.0006**	**.0000**	**.0001**	**-.0018**
Stddev	.0003	.0001	.0002	.0002	.0004	.0001	.0001	.0003	.0002
%RSD	88.37	356.9	362.6	5106.	429.7	10.86	395.1	196.9	12.71
#1	-.0001	-.0001	.0003	.0002	-.0000	-.0007	.0001	.0004	-.0019
#2	-.0002	-.0001	-.0000	-.0002	-.0002	-.0006	.0000	.0001	-.0015
#3	-.0008	.0001	-.0001	-.0001	.0006	-.0006	-.0001	-.0001	-.0019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0000**	**-.0003**	**-.0002**	**-.0002**	**-.0005**	**.0009**	**.0096**	**-.0020**
Stddev	.0005	.0001	.0007	.0009	.0006	.0005	.0011	.0051	.0015
%RSD	177.0	540.6	229.5	429.5	318.4	100.6	125.9	53.57	71.36
#1	.0007	-.0001	.0005	-.0005	.0005	-.0003	.0021	.0099	-.0037
#2	-.0003	.0001	-.0005	-.0009	-.0004	-.0001	.0007	.0145	-.0015
#3	.0004	.0001	-.0010	.0008	-.0007	-.0010	-.0001	.0043	-.0010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0056**	**.0650**	**.0326**	**.0014**	**.0002**	**.0022**	**-.0002**	**.0000**
Stddev	.0039	.0441	.0364	.0043	.0003	.0000	.0003	.0005	.0001
%RSD	718.3	781.8	55.97	13.09	24.24	10.95	15.55	191.6	140.5
#1	-.0034	-.0112	.1069	.0311	.0017	.0002	.0022	-.0008	.0001
#2	-.0022	.0556	.0466	.0293	.0011	.0002	.0025	.0000	.0000
#3	.0040	-.0275	.0415	.0374	.0015	.0002	.0018	.0000	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 7:29:01 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0010**	**.0003**	**.0056**	**-.0006**	**.0013**	**.0103**
Stddev	.0004	.0010	.0002	.0004	.0009	.0005	.0011
%RSD	338.8	95.68	62.79	6.724	140.8	37.95	10.19
#1	-.0001	.0021	.0005	.0052	-.0015	.0007	.0112
#2	.0006	.0002	.0003	.0058	.0002	.0014	.0107
#3	-.0002	.0008	.0001	.0059	-.0005	.0017	.0091
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102570.**	**5037.8**	**3678.2**	**8294.2**
Stddev	87.	14.0	26.2	55.1
%RSD	.08435	.27775	.71216	.66468
#1	102530.	5023.9	3692.4	8314.7
#2	102670.	5051.9	3648.0	8231.8
#3	102510.	5037.6	3694.3	8336.2

Zoom In Zoom Out

Sample Name: jc86246-36 Acquired: 4/19/2019 7:34:34 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2964**	**.0019**	**.0067**	**.0232**	**.2197**	**.3389**	**1.390**	**.0736**	**.0038**
Stddev	.0013	.0000	.0001	.0002	.0015	.0007	.001	.0005	.0002
%RSD	.4468	.5691	1.634	1.019	.6796	.2055	.0757	.6253	4.099
#1	.2957	.0020	.0067	.0234	.2205	.3386	1.391	.0733	.0037
#2	.2979	.0019	.0066	.0231	.2207	.3397	1.389	.0733	.0037
#3	.2956	.0019	.0068	.0229	.2180	.3384	1.391	.0741	.0040

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0912**	**1.119**	**.0340**	**.0004**	**.4844**	**.0016**	**.0018**	**30.29**	**14.34**
Stddev	.0003	.001	.0010	.0004	.0004	.0011	.0006	.09	.05
%RSD	.3327	.1036	2.803	95.00	.0838	65.90	34.49	.2887	.3796
#1	.0914	1.119	.0339	.0008	.4845	.0025	.0011	30.36	14.40
#2	.0908	1.120	.0330	.0003	.4840	.0020	.0023	30.32	14.31
#3	.0914	1.118	.0349	.0001	.4848	.0004	.0021	30.19	14.31

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**72.63**	**17.16**	**6.043**	**27.04**	**.1286**	**.0050**	**1.751**	**.2137**	**.1857**
Stddev	.13	.04	.021	.05	.0010	.0002	.017	.0008	.0008
%RSD	.1762	.2187	.3470	.1780	.8141	3.391	.9597	.3541	.4053
#1	72.50	17.17	6.065	27.03	.1293	.0048	1.770	.2128	.1855
#2	72.75	17.12	6.042	27.09	.1291	.0051	1.746	.2142	.1866
#3	72.64	17.20	6.023	27.00	.1274	.0049	1.737	.2140	.1852

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.080**	**.0061**	**.0354**	**45.56**	**.0060**	**.0438**	**5.262**
Stddev	.001	.0011	.0004	.12	.0013	.0013	.011
%RSD	.1034	17.57	1.021	.2527	22.30	2.977	.2111
#1	1.080	.0073	.0358	45.66	.0074	.0450	5.275
#2	1.078	.0055	.0351	45.43	.0048	.0424	5.254
#3	1.080	.0054	.0354	45.58	.0058	.0440	5.256

Zoom In Zoom Out

Sample Name: jc86246-36 Acquired: 4/19/2019 7:34:34 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102910.**	**5299.7**	**3721.6**	**7813.0**
Stddev	37.	9.5	4.9	4.1
%RSD	.03557	.17971	.13293	.05305
#1	102950.	5288.9	3715.9	7808.5
#2	102880.	5302.8	3725.1	7816.6
#3	102900.	5307.2	3723.7	7814.0

Zoom In Zoom Out

Sample Name: jc86246-37 Acquired: 4/19/2019 7:39:51 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3402**	**.0022**	**.0081**	**.0307**	**.2601**	**.3671**	**1.315**	**.0970**	**.0029**
Stddev	.0003	.0001	.0002	.0003	.0013	.0003	.001	.0004	.0005
%RSD	.0943	3.476	1.914	.8548	.5051	.0943	.0638	.3836	15.87
#1	.3403	.0022	.0082	.0305	.2587	.3674	1.315	.0974	.0029
#2	.3404	.0021	.0079	.0306	.2613	.3668	1.316	.0967	.0033
#3	.3398	.0022	.0081	.0310	.2603	.3671	1.315	.0968	.0024

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1229**	**1.659**	**.0466**	**-.0007**	**.5755**	**.0021**	**.0003**	**32.84**	**17.61**
Stddev	.0008	.003	.0000	.0013	.0010	.0030	.0017	.08	.03
%RSD	.6863	.1616	.0747	174.9	.1756	145.1	488.4	.2432	.1437
#1	.1234	1.661	.0466	-.0022	.5764	.0018	.0017	32.80	17.59
#2	.1219	1.661	.0466	-.0002	.5744	-.0008	-.0015	32.78	17.60
#3	.1234	1.656	.0465	.0002	.5756	.0052	.0008	32.93	17.64

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**85.93**	**19.54**	**6.636**	**24.36**	**.1649**	**.0065**	**1.825**	**.2585**	**.2258**
Stddev	.18	.07	.018	.02	.0007	.0002	.004	.0007	.0004
%RSD	.2041	.3636	.2727	.0964	.3956	3.737	.2435	.2635	.1895
#1	85.79	19.48	6.650	24.37	.1651	.0067	1.826	.2589	.2255
#2	86.13	19.61	6.644	24.33	.1641	.0063	1.820	.2589	.2256
#3	85.88	19.52	6.616	24.38	.1654	.0067	1.829	.2577	.2263

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.187**	**.0110**	**.0441**	**62.61**	**.0048**	**.0494**	**3.918**
Stddev	.002	.0002	.0003	.21	.0012	.0004	.020
%RSD	.1502	1.500	.7546	.3381	24.74	.8055	.5026
#1	1.189	.0111	.0443	62.85	.0039	.0499	3.939
#2	1.186	.0109	.0437	62.52	.0062	.0491	3.916
#3	1.186	.0108	.0442	62.46	.0044	.0493	3.900

Zoom In Zoom Out

Sample Name: jc86246-37 Acquired: 4/19/2019 7:39:51 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102820.**	**5316.4**	**3723.0**	**7798.2**
Stddev	43.	2.2	6.1	8.3
%RSD	.04230	.04048	.16326	.10687
#1	102790.	5318.2	3716.1	7788.9
#2	102870.	5314.1	3725.8	7804.9
#3	102810.	5317.1	3727.3	7800.8

Zoom In Zoom Out

Sample Name: jc86390-41 Acquired: 4/19/2019 7:45:08 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5333**	**.0036**	**.0200**	**.0444**	**.8970**	**.7357**	**1.224**	**.1747**	**.0112**
Stddev	.0011	.0001	.0003	.0002	.0012	.0017	.002	.0001	.0004
%RSD	.1986	3.305	1.314	.4877	.1324	.2329	.1415	.0458	3.712
#1	.5325	.0035	.0197	.0442	.8964	.7353	1.222	.1746	.0116
#2	.5330	.0036	.0201	.0445	.8984	.7375	1.226	.1747	.0108
#3	.5345	.0037	.0202	.0445	.8963	.7342	1.223	.1747	.0113

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1916**	**1.898**	**.0730**	**-.0004**	**.9134**	**.0035**	**.0006**	**62.09**	**18.84**
Stddev	.0002	.002	.0012	.0025	.0052	.0027	.0011	.17	.03
%RSD	.1177	.0971	1.654	611.2	.5655	78.46	180.0	.2799	.1473
#1	.1919	1.899	.0742	.0022	.9078	.0033	.0019	62.01	18.85
#2	.1915	1.899	.0730	-.0029	.9179	.0008	.0004	62.29	18.86
#3	.1915	1.896	.0718	-.0006	.9146	.0063	-.0004	61.97	18.81

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**117.8**	**28.14**	**12.30**	**23.87**	**.1053**	**.0122**	**1.641**	**.2363**	**.2067**
Stddev	.3	.04	.08	.05	.0009	.0001	.004	.0009	.0013
%RSD	.2282	.1507	.6773	.1990	.8955	.5349	.2207	.3953	.6122
#1	117.7	28.09	12.23	23.84	.1042	.0121	1.639	.2356	.2056
#2	117.7	28.17	12.27	23.92	.1060	.0123	1.640	.2374	.2065
#3	118.1	28.14	12.39	23.84	.1056	.0122	1.646	.2359	.2081

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.027**	**.0088**	**.0600**	**56.15**	**.0075**	**.1077**	**4.085**
Stddev	.002	.0004	.0001	.09	.0016	.0008	.005
%RSD	.1172	4.493	.2312	.1537	20.89	.7341	.1207
#1	2.026	.0091	.0601	56.14	.0090	.1086	4.084
#2	2.029	.0088	.0600	56.24	.0077	.1074	4.090
#3	2.025	.0083	.0598	56.07	.0059	.1071	4.080

Zoom In Zoom Out

Sample Name: jc86390-41 Acquired: 4/19/2019 7:45:08 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103100.**	**5357.6**	**3721.4**	**7711.6**
Stddev	178.	4.9	4.5	9.0
%RSD	.17308	.09156	.12216	.11618
#1	103190.	5357.5	3725.6	7718.3
#2	102900.	5352.8	3716.6	7701.4
#3	103230.	5362.6	3722.1	7715.0

Zoom In Zoom Out

Sample Name: jc86390-42 Acquired: 4/19/2019 7:50:25 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5606**	**.0038**	**.0178**	**.0450**	**.8540**	**.7360**	**1.250**	**.1804**	**.0138**
Stddev	.0453	.0003	.0001	.0002	.0032	.0008	.004	.0003	.0033
%RSD	8.084	7.271	.7357	.4906	.3770	.1094	.3325	.1548	24.16
#1	.5352	.0036	.0177	.0448	.8545	.7363	1.251	.1801	.0115
#2	.5336	.0036	.0178	.0452	.8505	.7351	1.246	.1806	.0122
#3	.6129	.0041	.0179	.0451	.8569	.7367	1.254	.1805	.0176

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1925**	**1.919**	**.0734**	**-.0012**	**.9334**	**.0018**	**.0017**	**66.68**	**22.17**
Stddev	.0008	.002	.0014	.0005	.0022	.0016	.0002	5.31	1.81
%RSD	.4125	.1006	1.953	44.89	.2380	89.24	13.23	7.966	8.180
#1	.1932	1.918	.0728	-.0017	.9320	.0005	.0016	63.72	21.19
#2	.1916	1.917	.0724	-.0006	.9323	.0013	.0020	63.50	21.07
#3	.1927	1.921	.0751	-.0012	.9360	.0036	.0016	72.81	24.27

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**126.6**	**30.30**	**13.10**	**25.21**	**.1041**	**.0128**	**1.599**	**.2354**	**.2242**
Stddev	10.1	2.39	1.04	1.95	.0006	.0002	.004	.0008	.0178
%RSD	7.962	7.880	7.922	7.728	.5812	1.462	.2822	.3540	7.959
#1	121.1	28.91	12.50	24.12	.1035	.0127	1.602	.2347	.2139
#2	120.5	28.93	12.50	24.05	.1047	.0128	1.600	.2352	.2139
#3	138.2	33.05	14.30	27.46	.1042	.0130	1.594	.2363	.2448

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.101**	**.0091**	**.1064**	**56.12**	**.0052**	**.1152**	**4.123**
Stddev	.004	.0008	.0008	.09	.0007	.0083	.007
%RSD	.1723	9.022	.7751	.1551	12.70	7.242	.1631
#1	2.104	.0085	.1058	56.10	.0051	.1111	4.117
#2	2.097	.0087	.1060	56.21	.0059	.1097	4.130
#3	2.102	.0100	.1073	56.04	.0046	.1248	4.122

Zoom In Zoom Out

Sample Name: jc86390-42 Acquired: 4/19/2019 7:50:25 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103420.**	**5141.6**	**3726.4**	**7709.8**
Stddev	259.	335.5	1.4	10.3
%RSD	.25000	6.5247	.03888	.13401
#1	103420.	5306.2	3727.7	7715.9
#2	103690.	5363.0	3726.6	7697.9
#3	103170.	4755.6	3724.8	7715.7

Zoom In Zoom Out

Sample Name: jc86390-43 Acquired: 4/19/2019 7:55:40 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4957**	**.0035**	**.0138**	**.0457**	**.7119**	**.6159**	**1.365**	**.1664**	**.0117**
Stddev	.0012	.0001	.0000	.0004	.0265	.0207	.044	.0005	.0013
%RSD	.2444	2.197	.2709	.8766	3.726	3.368	3.259	.3018	11.43
#1	.4969	.0036	.0137	.0460	.7293	.6282	1.394	.1669	.0110
#2	.4945	.0034	.0138	.0459	.6814	.5919	1.314	.1662	.0133
#3	.4959	.0035	.0138	.0453	.7252	.6275	1.387	.1660	.0110

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1688**	**1.466**	**.0945**	**-.0003**	**.7306**	**.0016**	**.0008**	**64.30**	**17.44**
Stddev	.0062	.004	.0002	.0010	.0040	.0007	.0019	.12	.05
%RSD	3.675	.2673	.2638	318.6	.5444	40.74	237.3	.1892	.2861
#1	.1736	1.470	.0942	-.0006	.7334	.0022	.0016	64.43	17.47
#2	.1618	1.462	.0944	-.0011	.7261	.0019	.0022	64.27	17.46
#3	.1710	1.466	.0947	.0008	.7325	.0009	-.0014	64.19	17.38

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**122.3**	**27.94**	**12.87**	**22.19**	**.1014**	**.0112**	**1.587**	**.2261**	**.1764**
Stddev	.1	.01	.05	.05	.0008	.0001	.006	.0012	.0005
%RSD	.0922	.0392	.4064	.2067	.7853	.8864	.3649	.5329	.2915
#1	122.5	27.94	12.93	22.24	.1006	.0113	1.592	.2263	.1769
#2	122.3	27.93	12.83	22.15	.1022	.0111	1.588	.2247	.1758
#3	122.3	27.95	12.85	22.18	.1015	.0113	1.580	.2271	.1764

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.975**	**.0079**	**.0590**	**62.33**	**.0048**	**.1145**	**3.486**
Stddev	.065	.0012	.0017	.14	.0020	.0011	.007
%RSD	3.307	15.49	2.880	.2301	40.71	.9506	.1914
#1	2.017	.0090	.0602	62.48	.0028	.1156	3.493
#2	1.900	.0066	.0571	62.31	.0049	.1146	3.487
#3	2.009	.0080	.0598	62.19	.0067	.1134	3.479

Zoom In Zoom Out

Sample Name: jc86390-43 Acquired: 4/19/2019 7:55:40 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**105700.**	**5376.4**	**3733.9**	**7730.7**
Stddev	2953.	15.3	2.3	6.8
%RSD	2.7937	.28413	.06216	.08791
#1	103730.	5363.7	3731.3	7723.2
#2	109100.	5372.2	3734.7	7736.5
#3	104280.	5393.3	3735.7	7732.3

Zoom In Zoom Out

Sample Name: jc86390-44 Acquired: 4/19/2019 8:00:56 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4254**	**.0035**	**.0088**	**.0431**	**.4288**	**.5509**	**1.267**	**.1540**	**.0074**
Stddev	.0001	.0000	.0003	.0011	.0017	.0016	.000	.0034	.0006
%RSD	.0205	1.360	2.855	2.665	.3848	.2857	.0268	2.204	8.008
#1	.4255	.0035	.0085	.0427	.4275	.5527	1.268	.1522	.0080
#2	.4253	.0034	.0090	.0444	.4283	.5498	1.267	.1579	.0074
#3	.4254	.0035	.0088	.0422	.4306	.5502	1.267	.1519	.0068

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1552**	**1.308**	**.0552**	**-.0010**	**.6854**	**-.0001**	**-.0006**	**59.95**	**27.83**
Stddev	.0007	.036	.0004	.0019	.0166	.0016	.0010	.11	.05
%RSD	.4351	2.758	.7960	182.3	2.428	1098.	186.1	.1874	.1814
#1	.1544	1.288	.0552	-.0022	.6769	.0008	-.0016	59.85	27.88
#2	.1557	1.350	.0556	-.0020	.7045	-.0020	-.0004	59.93	27.83
#3	.1554	1.287	.0547	.0011	.6746	.0007	.0004	60.07	27.78

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**113.9**	**28.58**	**12.30**	**23.51**	**.1128**	**.0091**	**1.610**	**.2038**	**.2015**
Stddev	.5	.22	.04	.03	.0033	.0001	.041	.0056	.0011
%RSD	.4014	.7792	.2844	.1213	2.891	1.076	2.541	2.745	.5218
#1	114.2	28.64	12.33	23.49	.1110	.0091	1.595	.2018	.2012
#2	114.2	28.77	12.31	23.54	.1165	.0092	1.657	.2102	.2027
#3	113.4	28.34	12.26	23.51	.1108	.0090	1.579	.1996	.2007

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.968**	**.0067**	**.0587**	**45.48**	**.0050**	**.1085**	**3.580**
Stddev	.001	.0005	.0002	1.09	.0010	.0018	.079
%RSD	.0523	6.938	.3591	2.388	19.44	1.668	2.211
#1	1.967	.0063	.0586	44.83	.0061	.1101	3.539
#2	1.968	.0072	.0589	46.73	.0047	.1087	3.671
#3	1.969	.0067	.0585	44.88	.0043	.1066	3.529

Zoom In Zoom Out

Sample Name: jc86390-44 Acquired: 4/19/2019 8:00:56 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103050.**	**5350.5**	**3676.6**	**7588.8**
Stddev	203.	20.9	82.4	161.8
%RSD	.19722	.38985	2.2417	2.1325
#1	103230.	5330.7	3721.5	7682.0
#2	103080.	5348.7	3581.5	7401.9
#3	102830.	5372.3	3726.8	7682.5

Zoom In Zoom Out

Sample Name: mp14303-mb1 Acquired: 4/19/2019 8:08:18 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0001**	**-.0002**	**.0000**	**.0001**	**-.0006**	**-.0000**	**.0003**	**-.0013**
Stddev	.0002	.0001	.0002	.0002	.0002	.0002	.0001	.0001	.0003
%RSD	45.58	144.2	124.7	2730.	252.8	34.85	207.3	39.48	19.07
#1	-.0005	-.0000	.0001	-.0001	-.0001	-.0008	.0000	.0002	-.0013
#2	-.0005	-.0000	-.0002	-.0001	.0003	-.0007	-.0000	.0002	-.0016
#3	-.0002	-.0002	-.0003	.0002	-.0000	-.0004	-.0001	.0004	-.0011

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0053**	**-.0011**	**-.0012**	**-.0005**	**-.0018**	**.0007**	**.0049**	**.0104**
Stddev	.0001	.0001	.0012	.0002	.0012	.0026	.0004	.0088	.0031
%RSD	2464.	2.590	106.8	17.90	229.5	149.2	48.97	179.7	30.13
#1	-.0002	.0055	.0002	-.0014	-.0012	-.0009	.0010	.0038	.0076
#2	.0000	.0052	-.0014	-.0012	-.0013	.0003	.0009	.0142	.0138
#3	.0001	.0053	-.0021	-.0010	.0009	-.0047	.0003	-.0033	.0098

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0052**	**-.0014**	**.0345**	**.0200**	**.0004**	**-.0001**	**.0037**	**-.0002**	**.0000**
Stddev	.0020	.0345	.0113	.0083	.0003	.0001	.0014	.0004	.0000
%RSD	38.12	2535.	32.83	41.41	69.54	71.06	36.96	248.8	117.9
#1	.0074	.0371	.0289	.0126	.0001	-.0000	.0022	.0002	.0000
#2	.0044	-.0295	.0476	.0290	.0007	-.0001	.0039	-.0007	.0000
#3	.0037	-.0117	.0271	.0185	.0006	-.0001	.0049	-.0000	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0008**	**.0001**	**.0095**	**-.0008**	**.0015**	**.0102**
Stddev	.0002	.0003	.0001	.0023	.0011	.0015	.0006
%RSD	78560.	36.42	135.7	24.17	138.1	98.50	5.952
#1	.0002	.0005	.0001	.0108	.0005	.0030	.0104
#2	-.0001	.0011	-.0000	.0068	-.0013	.0014	.0106
#3	-.0001	.0007	.0000	.0108	-.0016	.0001	.0095

Zoom In / Zoom Out

Sample Name: mp14303-mb1 Acquired: 4/19/2019 8:08:18 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**103260.**	**5118.0**	**3689.9**	**8349.3**
Stddev	151.	44.6	3.5	10.1
%RSD	.14660	.87166	.09615	.12111
#1	103420.	5080.4	3687.0	8341.8
#2	103240.	5106.2	3688.7	8345.3
#3	103120.	5167.3	3693.8	8360.8

Zoom In / Zoom Out

Sample Name: mp14276-mb1 Acquired: 4/19/2019 8:13:52 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0001**	**.0002**	**.0001**	**.0009**	**.0000**	**.0002**	**.0005**	**-.0014**
Stddev	.0002	.0001	.0000	.0001	.0001	.0003	.0000	.0002	.0004
%RSD	88.00	92.51	8.863	187.7	8.909	1398.	29.41	40.11	28.96
#1	-.0004	-.0002	.0002	-.0001	.0010	-.0000	.0002	.0007	-.0016
#2	-.0003	-.0001	.0003	.0002	.0010	-.0002	.0001	.0003	-.0016
#3	-.0000	-.0000	.0002	.0001	.0008	.0003	.0002	.0004	-.0009

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0057**	**.0004**	**.0004**	**-.0010**	**-.0019**	**.0003**	**.0042**	**.0364**
Stddev	.0001	.0000	.0016	.0008	.0003	.0012	.0011	.0130	.0071
%RSD	26.71	.5916	402.9	214.2	30.84	63.29	421.3	306.7	19.51
#1	.0002	.0057	-.0014	.0004	-.0010	-.0032	.0003	-.0107	.0369
#2	.0002	.0057	.0017	.0012	-.0014	-.0016	.0013	.0130	.0432
#3	.0003	.0057	.0008	-.0005	-.0008	-.0008	-.0009	.0103	.0290

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0178**	**-.0176**	**-.0014**	**.0378**	**.0005**	**.0008**	**.0060**	**.0213**	**.0001**
Stddev	.0045	.0361	.0178	.0094	.0006	.0001	.0004	.0007	.0001
%RSD	25.03	205.0	1248.	24.97	135.2	14.98	5.854	3.369	106.2
#1	.0138	-.0139	-.0112	.0278	.0005	.0010	.0062	.0208	.0002
#2	.0170	.0165	.0191	.0466	-.0002	.0007	.0063	.0210	.0001
#3	.0226	-.0554	-.0121	.0391	.0010	.0008	.0056	.0222	.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0002**	**.0001**	**.0142**	**.0011**	**.0005**	**.0292**
Stddev	.0000	.0002	.0001	.0006	.0003	.0023	.0005
%RSD	31.70	82.58	113.2	4.013	31.65	495.8	1.763
#1	.0002	.0001	.0000	.0148	.0007	.0024	.0287
#2	.0001	.0002	.0002	.0137	.0012	.0009	.0298
#3	.0002	.0005	.0000	.0140	.0013	-.0020	.0292

Zoom In / Zoom Out

Sample Name: mp14276-mb1 Acquired: 4/19/2019 8:13:52 Type: Unk
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**104060.**	**5183.6**	**3730.6**	**8465.8**
Stddev	204.	17.0	2.5	9.5
%RSD	.19641	.32788	.06748	.11217
#1	104270.	5179.0	3733.0	8457.5
#2	104050.	5169.5	3730.8	8463.6
#3	103860.	5202.5	3728.0	8476.2

Zoom In / Zoom Out

Sample Name: ccv Acquired: 4/19/2019 8:19:25 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.996**	**1.943**	**1.968**	**1.984**	**1.940**	**1.928**	**1.944**	**1.962**	**.2389**
Stddev	.002	.005	.000	.001	.004	.004	.001	.002	.0005
%RSD	.0960	.2715	.0178	.0563	.1858	.1802	.0399	.1091	.1930
#1	1.994	1.942	1.968	1.983	1.936	1.930	1.945	1.961	.2385
#2	1.995	1.938	1.968	1.985	1.942	1.929	1.944	1.965	.2389
#3	1.998	1.949	1.969	1.983	1.943	1.924	1.945	1.962	.2394
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.913**	**1.941**	**1.976**	**2.026**	**1.980**	**1.996**	**2.021**	**39.17**	**39.18**
Stddev	.004	.003	.001	.002	.001	.001	.004	.06	.04
%RSD	.2052	.1739	.0468	.1028	.0329	.0660	.1772	.1449	.1068
#1	1.917	1.939	1.976	2.025	1.980	1.996	2.019	39.23	39.21
#2	1.914	1.945	1.977	2.026	1.980	1.994	2.019	39.16	39.20
#3	1.909	1.940	1.975	2.029	1.979	1.996	2.025	39.11	39.13
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**38.62**	**37.43**	**39.50**	**39.97**	**2.053**	**1.996**	**5.148**	**1.982**	**2.016**
Stddev	.02	.05	.08	.07	.001	.001	.003	.002	.006
%RSD	.0611	.1421	.1936	.1701	.0441	.0555	.0642	.0957	.3203
#1	38.64	37.37	39.53	40.01	2.053	1.995	5.151	1.980	2.013
#2	38.59	37.47	39.41	39.89	2.053	1.997	5.148	1.982	2.012
#3	38.64	37.45	39.56	40.00	2.052	1.995	5.144	1.983	2.023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/19/2019 8:19:25 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.898**	**1.954**	**1.915**	**2.022**	**2.077**	**1.956**	**1.966**
Stddev	.001	.003	.002	.002	.003	.003	.003
%RSD	.0502	.1346	.0940	.0960	.1532	.1723	.1319
#1	1.899	1.953	1.916	2.020	2.078	1.958	1.963
#2	1.898	1.957	1.915	2.023	2.073	1.952	1.968
#3	1.897	1.952	1.913	2.024	2.079	1.958	1.968
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**97887.**	**4988.0**	**3594.3**	**7508.9**
Stddev	77.	10.8	1.7	4.9
%RSD	.07917	.21698	.04597	.06558
#1	97879.	4994.2	3595.2	7506.9
#2	97968.	4975.5	3592.4	7505.2
#3	97813.	4994.3	3595.3	7514.5

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 8:24:27 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**-.0001**	**-.0001**	**.0002**	**.0005**	**-.0004**	**.0000**	**.0002**	**-.0011**
Stddev	.0001	.0001	.0002	.0001	.0001	.0004	.0000	.0003	.0000
%RSD	20.37	137.1	284.0	57.64	30.08	87.10	39.10	155.1	1.159
#1	-.0006	.0000	-.0000	.0001	.0003	-.0007	.0001	.0005	-.0011
#2	-.0006	-.0001	.0001	.0003	.0005	-.0000	.0000	.0001	-.0011
#3	-.0004	-.0001	-.0003	.0002	.0006	-.0005	.0000	-.0000	-.0011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0001**	**-.0002**	**-.0005**	**-.0004**	**-.0014**	**.0007**	**-.0007**	**.0076**
Stddev	.0000	.0001	.0007	.0006	.0010	.0013	.0002	.0078	.0006
%RSD	300.6	66.55	276.4	109.8	228.6	92.06	29.27	1099.	8.072
#1	-.0000	.0000	-.0008	-.0002	-.0006	-.0029	.0006	.0079	.0075
#2	.0000	.0001	.0005	-.0012	-.0014	-.0004	.0005	-.0028	.0070
#3	.0000	.0001	-.0004	-.0002	.0006	-.0010	.0009	-.0072	.0083
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**-.0239**	**.0200**	**.0228**	**.0012**	**.0003**	**.0027**	**-.0002**	**.0000**
Stddev	.0021	.0293	.0271	.0037	.0004	.0004	.0007	.0003	.0001
%RSD	148.6	122.8	135.2	16.20	37.57	138.2	27.62	136.6	3917.
#1	-.0000	-.0059	.0290	.0238	.0011	.0003	.0027	-.0001	-.0001
#2	.0004	-.0080	-.0104	.0258	.0017	.0006	.0033	-.0005	-.0000
#3	.0038	-.0577	.0416	.0187	.0008	-.0001	.0019	.0000	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/19/2019 8:24:27 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0011**	**.0002**	**.0064**	**.0006**	**.0008**	**.0086**
Stddev	.0002	.0008	.0000	.0016	.0011	.0023	.0004
%RSD	206.2	77.95	14.75	24.41	190.6	286.0	5.180
#1	.0001	.0011	.0002	.0078	.0019	.0034	.0081
#2	-.0003	.0002	.0002	.0066	-.0002	-.0002	.0090
#3	-.0000	.0019	.0002	.0047	.0001	-.0008	.0089
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**102460.**	**5025.7**	**3701.8**	**8376.6**
Stddev	126.	26.5	1.0	1.6
%RSD	.12315	.52704	.02601	.01892
#1	102320.	5031.8	3702.2	8375.9
#2	102560.	5048.6	3700.7	8375.6
#3	102500.	4996.7	3702.5	8378.5

NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ba 455.403 { 74}	☒	3	Mg	0.000001	0.000000	No
			Al	0.000002	0.000000	No
			Zr	0.000727	0.000000	No
Be 313.042 {108}	☒	9	V	0.000331	0.000000	No
			Mo	-0.000030	0.000000	No
			Ti	-0.000580	0.000000	No
			Mn	-0.000018	0.000000	No
			Ni	0.000001	0.000000	No
			Ca	-0.000000	0.000000	No
			Cu	0.000014	0.000000	No
			Zn	-0.000010	0.000000	No
			Fe	-0.000002	0.000000	No
Cd 228.802 {448}	☒	13	As	0.004626	0.000000	No
			Ni	-0.000900	0.000000	No
			Fe	-0.000010	0.000000	No
			V	0.000110	0.000000	No
			Ba	0.000054	0.000000	No
			Co	-0.000709	0.000000	No
			Ca	0.000000	0.000000	No
			Mn	0.000014	0.000000	No
			Cr	0.000007	0.000000	No
			Cu	0.000024	0.000000	No
			Al	0.000000	0.000000	No
			Mo	0.000004	0.000000	No
			W	0.000000	0.000000	No
Co 228.616 {448}	☒	9	Fe	-0.000001	0.000000	No
			Cr	-0.000046	0.000000	No
			Mo	-0.001750	0.000000	No
			Ni	0.000084	0.000000	No
			Ti	0.002220	0.000000	No
			W	0.000160	0.000000	No
			Cd	-0.000188	0.000000	No
			Ca	0.000000	0.000000	No
			As	0.000150	0.000000	No
Cr 267.716 {126}	☒	11	Mn	0.000474	0.000000	No
			Mo	0.000033	0.000000	No
			Fe	-0.000009	0.000000	No
			Cd	-0.000050	0.000000	No
			Al	-0.000000	0.000000	No
			Ca	0.000002	0.000000	No
			Mg	0.000001	0.000000	No
			Ti	0.000050	0.000000	No
			Ba	0.000013	0.000000	No
			Cu	0.000100	0.000000	No
			Sr	-0.000100	0.000000	No
Cu 324.754 {104}2	☒	17	Cr	0.000000	0.000000	No
			V	-0.000408	0.000000	No
			Mo	0.000572	0.000000	No
			Ti	-0.000330	0.000000	No
			Fe	-0.000127	0.000000	No
			Al	0.000000	0.000000	No
			Sn	-0.000097	0.000000	No
			Co	-0.000980	0.000000	No
			Zr	-0.000500	0.000000	No
			Si	-0.000002	0.000000	No
			Mn	-0.000072	0.000000	No
			Se	0.000050	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Ag	0.000166	0.000000	No
			Sb	0.000024	0.000000	No
			Pb	0.000040	0.000000	No
			Be	-0.000031	0.000000	No
			W	0.000000	0.000000	No
Mn 257.610 {131}	☒	6	Fe	-0.000094	0.000000	No
			Si	0.000044	0.000000	No
			Ba	0.000012	0.000000	No
			Ni	0.000028	0.000000	No
			Mo	0.000000	0.000000	No
			Cr	-0.000114	0.000000	No
Ni 231.604 {446}	☒	11	Fe	0.000030	0.000000	No
			Zn	-0.000021	0.000000	No
			Be	-0.000112	0.000000	No
			Co	-0.000360	0.000000	No
			Tl	0.000209	0.000000	No
			V	-0.000032	0.000000	No
			Cu	0.000100	0.000000	No
			Cr	-0.000014	0.000000	No
			Si	-0.000030	0.000000	No
			Sn	0.000079	0.000000	No
			W	0.000830	0.000000	No
Ag 328.068 {103}	☒	15	Mn	-0.000009	0.000000	No
			Mo	-0.000154	0.000000	No
			Ti	-0.000513	0.000000	No
			Fe	-0.000305	0.000000	No
			V	-0.001162	0.000000	No
			Zn	0.000570	0.000000	No
			Ca	-0.000004	0.000000	No
			Al	-0.000002	0.000000	No
			Mg	-0.000000	0.000000	No
			Ba	-0.000189	0.000000	No
			Cr	-0.000038	0.000000	No
			Zr	0.005170	0.000000	No
			Sn	-0.000100	0.000000	No
			W	0.000000	0.000000	No
			K	-0.000080	0.000000	No
V 292.402 {115}	☒	7	Ti	0.000776	0.000000	No
			Mo	-0.012800	0.000000	No
			Fe	0.000010	0.000000	No
			Sr	0.000000	0.000000	No
			Cr	-0.002590	0.000000	No
			Mn	-0.002844	0.000000	No
			W	0.000050	0.000000	No
Zn 206.200 {464}	☒	15	Cr	-0.000874	0.000000	No
			Mo	-0.000228	0.000000	No
			Fe	0.000010	0.000000	No
			Al	0.000000	0.000000	No
			Si	0.000065	0.000000	No
			Ba	-0.000060	0.000000	No
			Ca	0.000004	0.000000	No
			Sr	0.000017	0.000000	No
			Sn	0.000069	0.000000	No
			Cu	0.000056	0.000000	No
			As	-0.000050	0.000000	No
			Be	0.000071	0.000000	No
			Bi	-0.000400	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			W	0.000000	0.000000	No
			Ti	0.000030	0.000000	No
As 189.042 {478}	☒	23	Al	-0.000001	0.000000	No
			Fe	-0.000158	0.000000	No
			Ca	0.000001	0.000000	No
			Mn	-0.000010	0.000000	No
			Mo	0.003164	0.000000	No
			Cr	-0.006709	0.000000	No
			V	0.000052	0.000000	No
			Co	-0.000029	0.000000	No
			W	0.010000	0.000000	No
			Sn	-0.000123	0.000000	No
			Cd	-0.000194	0.000000	No
			Tl	0.000385	0.000000	No
			Be	-0.000017	0.000000	No
			Mg	0.000002	0.000000	No
			Si	0.000007	0.000000	No
			Zn	0.000070	0.000000	No
			Sr	-0.000080	0.000000	No
			Zr	0.000074	0.000000	No
			Ti	0.000009	0.000000	No
			Cu	0.000077	0.000000	No
			K	0.000000	0.000000	No
			B	-0.000030	0.000000	No
			S	0.000005	0.000000	No
Tl 190.856 {477}	☒	24	Cr	0.000289	0.000000	No
			Mo	-0.002100	0.000000	No
			Al	-0.000004	0.000000	No
			Fe	-0.000052	0.000000	No
			V	-0.018927	0.000000	No
			Mn	0.001620	0.000000	No
			Si	-0.000016	0.000000	No
			Ca	-0.000003	0.000000	No
			Ti	-0.003500	0.000000	No
			Mg	-0.000000	0.000000	No
			Co	0.005240	0.000000	No
			Sr	-0.000222	0.000000	No
			B	0.000120	0.000000	No
			Ba	0.000110	0.000000	No
			Zn	0.000025	0.000000	No
			As	0.000015	0.000000	No
			Ni	0.000051	0.000000	No
			Cu	-0.000032	0.000000	No
			W	0.010000	0.000000	No
			Sn	-0.000080	0.000000	No
			Se	0.000040	0.000000	No
			S	0.000010	0.000000	No
			K	0.000000	0.000000	No
			P	0.000000	0.000000	No
Pb 220.353 {453}	☒	23	Al	-0.000112	0.000000	No
			Fe	0.000044	0.000000	No
			Ca	-0.000007	0.000000	No
			Mn	0.000145	0.000000	No
			Zn	-0.000036	0.000000	No
			Mo	-0.001070	0.000000	No
			Cu	0.000410	0.000000	No
			V	0.000013	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Co	0.000116	0.000000	No
			Ti	-0.000440	0.000000	No
			Si	0.000116	0.000000	No
			Ba	-0.000012	0.000000	No
			Sb	0.000006	0.000000	No
			Sr	-0.000050	0.000000	No
			W	-0.005000	0.000000	No
			Mg	0.000003	0.000000	No
			Cd	0.000476	0.000000	No
			Zr	-0.000300	0.000000	No
			Ni	0.000320	0.000000	No
			S	-0.000010	0.000000	No
			Se	0.000036	0.000000	No
			As	0.000200	0.000000	No
			Cr	-0.000150	0.000000	No
Se 196.090 {472}	☒	22	Al	0.000001	0.000000	No
			Ca	0.000001	0.000000	No
			Mn	0.000651	0.000000	No
			Mo	0.000277	0.000000	No
			Fe	-0.000169	0.000000	No
			Co	-0.000029	0.000000	No
			V	0.000207	0.000000	No
			Sr	-0.000008	0.000000	No
			Cu	-0.000113	0.000000	No
			W	0.000000	0.000000	No
			Si	0.000157	0.000000	No
			Tl	0.000180	0.000000	No
			Be	-0.000143	0.000000	No
			Zn	-0.000250	0.000000	No
			B	-0.000141	0.000000	No
			Ti	0.000016	0.000000	No
			Cd	0.000090	0.000000	No
			Zr	-0.000280	0.000000	No
			Ba	0.000180	0.000000	No
			Mg	-0.000002	0.000000	No
			Cr	-0.000039	0.000000	No
			S	-0.000012	0.000000	No
Sb 206.833 {463}	☒	15	Fe	0.000023	0.000000	No
			Al	-0.000011	0.000000	No
			Ca	-0.000006	0.000000	No
			Ni	-0.001077	0.000000	No
			Cr	0.023570	0.000000	No
			V	-0.001909	0.000000	No
			Zn	-0.000200	0.000000	No
			Mo	-0.000000	0.000000	No
			Ti	0.001400	0.000000	No
			Sn	-0.016000	0.000000	No
			Mg	0.000004	0.000000	No
			Zr	-0.000627	0.000000	No
			Sr	0.000209	0.000000	No
			W	0.000000	0.000000	No
			Si	0.000000	0.000000	No
Al 396.152 { 85}	☒	5	Si	0.000913	0.000000	No
			Ca	0.000078	0.000000	No
			Mo	0.046534	0.000000	No
			Zr	-0.006000	0.000000	No
			Ti	-0.000017	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ca 317.933 {106}	☒	13	Fe	0.000130	0.000000	No
			W	0.003960	0.000000	No
			Tl	0.004950	0.000000	No
			Be	0.001840	0.000000	No
			Ba	0.003500	0.000000	No
			Cu	-0.001800	0.000000	No
			Cd	0.003700	0.000000	No
			Ni	0.001513	0.000000	No
			B	-0.000210	0.000000	No
			Se	0.002000	0.000000	No
			Co	0.000540	0.000000	No
			Cr	0.000640	0.000000	No
			Al	0.000026	0.000000	No
Fe 259.940 {130}	☒	13	Co	0.000004	0.000000	No
			Si	-0.000100	0.000000	No
			Tl	-0.002590	0.000000	No
			Se	-0.000050	0.000000	No
			Cr	-0.000566	0.000000	No
			Mn	-0.001433	0.000000	No
			V	-0.000064	0.000000	No
			Cu	0.000953	0.000000	No
			K	-0.000200	0.000000	No
			Zn	0.000046	0.000000	No
			Ti	-0.000631	0.000000	No
			Ca	0.000020	0.000000	No
			Ba	0.001000	0.000000	No
Mg 279.079 {121}	☒	1	Mo	-0.020780	0.000000	No
K 766.490 { 44}	☒	11	Fe	-0.000340	0.000000	No
			Al	0.000301	0.000000	No
			Ca	0.000448	0.000000	No
			Mn	0.001430	0.000000	No
			Si	-0.003000	0.000000	No
			V	-0.002000	0.000000	No
			Sn	-0.004700	0.000000	No
			Na	0.000300	0.000000	No
			Mo	-0.000850	0.000000	No
			Cu	-0.010000	0.000000	No
			Mg	0.000400	0.000000	No
Na 589.592 { 57}	☒	5	K	0.000038	0.000000	No
			Ba	0.000900	0.000000	No
			Ca	0.000055	0.000000	No
			Al	0.000040	0.000000	No
			V	-0.005000	0.000000	No
B 208.959 {462}	☒	1	Mo	0.037210	0.000000	No
Mo 202.030 {467}	☒	5	Fe	-0.000010	0.000000	No
			Mg	-0.000001	0.000000	No
			Ca	0.000003	0.000000	No
			W	0.000000	0.000000	No
			V	-0.000230	0.000000	No
Si 212.412 {459}	☒	14	Sr	0.000366	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	0.028950	0.000000	No
			Ti	0.006320	0.000000	No
			Al	0.000012	0.000000	No
			Cd	0.001043	0.000000	No
			Ba	0.000170	0.000000	No
			Fe	0.000040	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Sn	0.002213	0.000000	No
			Zn	0.000385	0.000000	No
			As	-0.000560	0.000000	No
			Pb	0.000471	0.000000	No
			V	0.006165	0.000000	No
			W	-0.025000	0.000000	No
Sn 189.989 {478}	☒	6	Ti	-0.000621	0.000000	No
			Mo	0.000011	0.000000	No
			Fe	0.000005	0.000000	No
			Mn	0.000060	0.000000	No
			Si	0.000089	0.000000	No
			W	-0.010000	0.000000	No
Sr 407.771 { 83}	☒	2	Fe	0.000002	0.000000	No
			Ca	0.000023	0.000000	No
Ti 334.904 {101}	☒	4	Cr	-0.000084	0.000000	No
			Mo	0.001569	0.000000	No
			Si	0.000035	0.000000	No
			Ca	-0.000003	0.000000	No
Y 360.073 { 94}*	☒	None				
Y 371.030 { 91}*	☒	None				
Y 224.306 {451}*	☒	None				
In 230.606 {446}*	☒	None				
W 207.911 {462}	☒	25	Al	0.000002	0.000000	No
			Si	-0.000900	0.000000	No
			Fe	-0.000007	0.000000	No
			As	-0.000200	0.000000	No
			Mg	-0.000006	0.000000	No
			Mn	-0.000110	0.000000	No
			Mo	-0.000300	0.000000	No
			Ti	0.000080	0.000000	No
			Sr	-0.000850	0.000000	No
			V	-0.000140	0.000000	No
			Cd	-0.000650	0.000000	No
			Cr	-0.000390	0.000000	No
			Zn	0.012200	0.000000	No
			Sn	0.000078	0.000000	No
			Zr	0.000230	0.000000	No
			B	-0.001000	0.000000	No
			Sb	-0.003000	0.000000	No
			Co	0.000041	0.000000	No
			Ni	-0.000263	0.000000	No
			Be	-0.000130	0.000000	No
			Se	-0.000080	0.000000	No
			Cu	-0.000118	0.000000	No
			Ba	-0.000090	0.000000	No
			Tl	-0.000110	0.000000	No
			Ag	0.000224	0.000000	No
Zr 339.198 { 99}	☒	9	Mo	0.000323	0.000000	No
			Ti	-0.000010	0.000000	No
			Fe	-0.000060	0.000000	No
			Si	0.000070	0.000000	No
			Bi	0.000295	0.000000	No
			Cr	-0.000900	0.000000	No
			V	0.000200	0.000000	No
			W	0.019000	0.000000	No
			Sn	-0.000400	0.000000	No
S 182.034 {485}	☒	11	Ca	0.000001	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Mo	-0.000040	0.000000	No
				Al	-0.000110	0.000000	No
				Fe	-0.000023	0.000000	No
				Mn	0.003900	0.000000	No
				W	0.000000	0.000000	No
				Zn	-0.001538	0.000000	No
				Cr	-0.000200	0.000000	No
				Mg	0.000015	0.000000	No
				Ti	0.000300	0.000000	No
				Li	0.000200	0.000000	No
	Bi 223.061 {451}	☒	9	V	-0.000680	0.000000	No
				Co	-0.002200	0.000000	No
				Ca	-0.000005	0.000000	No
				Mg	-0.000002	0.000000	No
				W	0.000000	0.000000	No
				Cu	-0.001186	0.000000	No
				Fe	0.000097	0.000000	No
				Cr	0.001500	0.000000	No
				Ti	-0.004530	0.000000	No
	Li 670.784 { 50}	☒	1	Ca	0.000051	0.000000	No
	P 177.495 {490}	☒	2	Mn	-0.005600	0.000000	No
				Ca	0.000034	0.000000	No

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
	Ba 455.403 { 74}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	0.006125	2.082488	0.000000	1.000000
	Be 313.042 {108}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000146	1.718197	0.000000	1.000000
	Cd 228.802 {448}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	0.000296	1.015614	0.000000	1.000000
	Co 228.616 {448}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000439	0.563733	0.000000	1.000000
	Cr 267.716 {126}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000016	0.054752	0.000000	1.000000
	Cu 324.754 {104}2	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	0.002524	0.198715	0.000000	1.000000
	Mn 257.610 {131}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	0.000049	0.328270	0.000000	1.000000
	Ni 231.604 {446}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000219	0.414574	0.000000	1.000000
	Ag 328.068 {103}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000246	0.102668	0.000000	1.000000
	V 292.402 {115}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000015	0.110152	0.000000	1.000000
	Zn 206.200 {464}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000298	1.437094	0.000000	1.000000
	As 189.042 {478}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000422	0.138162	0.000000	1.000000
	Tl 190.856 {477}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000172	0.071532	0.000000	1.000000
	Pb 220.353 {453}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000159	0.197775	0.000000	1.000000
	Se 196.090 {472}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000344	0.111879	0.000000	1.000000
	Sb 206.833 {463}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000734	0.195332	0.000000	1.000000
	Al 396.152 { 85}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.001329	0.038036	0.000000	1.000000
	Ca 317.933 {106}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.004632	0.050936	0.000000	1.000000
	Fe 259.940 {130}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000114	0.018744	0.000000	1.000000
	Mg 279.079 {121}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000081	0.003826	0.000000	1.000000
	K 766.490 { 44}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.006642	0.038512	0.000000	1.000000
	Na 589.592 { 57}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000739	0.111241	0.000000	1.000000
	B 208.959 {462}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000212	0.237297	0.000000	1.000000
	Mo 202.030 {467}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000099	1.027346	0.000000	1.000000
	Si 212.412 {459}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.002905	0.261139	0.000000	1.000000
	Sn 189.989 {478}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000149	0.236431	0.000000	1.000000
	Sr 407.771 { 83}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000739	3.768659	0.000000	1.000000
	Ti 334.904 {101}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000018	0.134066	0.000000	1.000000
	Y 360.073 { 94}*	4/19/2019 9:55:34	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 371.030 { 91}*	4/19/2019 9:55:34	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 224.306 {451}*	4/19/2019 9:55:34	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	In 230.606 {446}*	4/19/2019 9:55:34	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	W 207.911 {462}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.001201	0.511185	0.000000	1.000000
	Zr 339.198 { 99}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000164	0.343562	0.000000	1.000000
	S 182.034 {485}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.001813	0.059657	0.000000	1.000000
	Bi 223.061 {451}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000712	0.231338	0.000000	1.000000
	Li 670.784 { 50}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000896	0.785007	0.000000	1.000000
	P 177.495 {490}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.008524	0.147430	0.000000	1.000000

	Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
							Slope	Y-int	Slope factor	Offset
	Ba 455.403 { 74}	1.000000	0.000000	0.000355	0.001184	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	1.000000	0.000000	0.000153	0.000508	OK.	1.000000	0.000000	1	0
	Cd 228.802 {448}	1.000000	0.000000	0.000203	0.000678	OK.	1.000000	0.000000	1	0
	Co 228.616 {448}	1.000000	0.000000	0.000267	0.000889	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	1.000000	0.000000	0.000483	0.001610	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}2	1.000000	0.000000	0.000388	0.001294	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	1.000000	0.000000	0.000072	0.000239	OK.	1.000000	0.000000	1	0
	Ni 231.604 {446}	1.000000	0.000000	0.000313	0.001042	OK.	1.000000	0.000000	1	0
	Ag 328.068 {103}	1.000000	0.000000	0.000492	0.001642	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	1.000000	0.000000	0.000358	0.001193	OK.	1.000000	0.000000	1	0
	Zn 206.200 {464}	1.000000	0.000000	0.000132	0.000441	OK.	1.000000	0.000000	1	0
	As 189.042 {478}	1.000000	0.000000	0.001334	0.004445	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	1.000000	0.000000	0.001090	0.003633	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	1.000000	0.000000	0.000987	0.003291	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	1.000000	0.000000	0.001823	0.006076	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	1.000000	0.000000	0.001343	0.004477	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	1.000000	0.000000	0.017622	0.058741	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	1.000000	0.000000	0.005965	0.019882	OK.	1.000000	0.000000	1	0
	Fe 259.940 {130}	1.000000	0.000000	0.007643	0.025476	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	1.000000	0.000000	0.048213	0.160711	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	1.000000	0.000000	0.041945	0.139815	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	1.000000	0.000000	0.012987	0.043290	OK.	1.000000	0.000000	1	0
	B 208.959 {462}	1.000000	0.000000	0.000706	0.002352	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	1.000000	0.000000	0.000221	0.000735	OK.	1.000000	0.000000	1	0
	Si 212.412 {459}	1.000000	0.000000	0.000964	0.003213	OK.	1.000000	0.000000	1	0
	Sn 189.989 {478}	1.000000	0.000000	0.000625	0.002083	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	1.000000	0.000000	0.000154	0.000513	OK.	1.000000	0.000000	1	0
	Ti 334.904 {101}	1.000000	0.000000	0.000361	0.001202	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 224.306 {451}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	W 207.911 {462}	1.000000	0.000000	0.000890	0.002968	OK.	1.000000	0.000000	1	0
	Zr 339.198 { 99}	1.000000	0.000000	0.000187	0.000622	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	1.000000	0.000000	0.002766	0.009221	OK.	1.000000	0.000000	1	0
	Bi 223.061 {451}	1.000000	0.000000	0.001467	0.004891	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	1.000000	0.000000	0.002038	0.006792	OK.	1.000000	0.000000	1	0
	P 177.495 {490}	1.000000	0.000000	0.001195	0.003984	OK.	1.000000	0.000000	1	0

Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 4/22/2019 10:36:45 Type: Cal
Method: SGS 3 NO Valve(v286) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0124**	**-.0009**	**.0005**	**.0001**	**-.0001**	**.0028**	**.0001**	**-.0001**	**-.0004**
Stddev	.0005	.0001	.0000	.0001	.0000	.0001	.0000	.0004	.0000
%RSD	3.703	11.01	2.850	72.21	39.14	2.296	39.14	390.9	6.692
#1	.0125	-.0011	.0005	.0001	-.0001	.0027	.0000	.0000	-.0003
#2	.0119	-.0009	.0005	.0001	-.0001	.0028	.0001	-.0005	-.0004
#3	.0129	-.0009	.0005	.0000	-.0001	.0029	.0001	.0002	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0004**	**-.0005**	**-.0002**	**-.0002**	**.0005**	**.0001**	**.0009**	**.0003**	**.0085**
Stddev	.0001	.0002	.0001	.0001	.0003	.0002	.0003	.0003	.0002
%RSD	20.64	45.87	72.38	37.45	71.57	273.3	35.29	92.58	2.486
#1	.0004	-.0007	-.0000	-.0002	.0001	.0000	.0012	.0007	.0087
#2	.0005	-.0003	-.0003	-.0003	.0006	-.0001	.0007	.0000	.0085
#3	.0003	-.0006	-.0002	-.0002	.0007	.0002	.0007	.0004	.0083

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**-.0000**	**-.0019**	**-.0103**	**.0008**	**-.0005**	**.0029**	**.0003**	**-.0013**
Stddev	.0002	.0001	.0004	.0003	.0002	.0002	.0003	.0001	.0002
%RSD	134.1	272.3	18.51	2.763	30.26	48.88	11.29	35.73	18.41
#1	-.0001	-.0002	-.0022	-.0100	.0005	-.0003	.0029	.0005	-.0010
#2	.0002	-.0000	-.0021	-.0106	.0010	-.0007	.0025	.0002	-.0015
#3	.0003	.0001	-.0015	-.0103	.0009	-.0004	.0032	.0003	-.0015

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**.0007**	**-.0005**	**.0003**	**-.0003**	**-.0037**	**-.0045**
Stddev	.0001	.0002	.0000	.0001	.0001	.0015	.0001
%RSD	40.53	23.36	7.906	28.97	33.45	39.62	1.392
#1	.0002	.0006	-.0005	.0004	-.0003	-.0021	-.0045
#2	.0001	.0009	-.0005	.0003	-.0003	-.0042	-.0044
#3	.0002	.0007	-.0006	.0002	-.0005	-.0049	-.0045

◀ Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 4/22/2019 10:36:45 Type: Cal
Method: SGS 3 NO Valve(v286) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**145770.**	**26527.**	**6583.6**	**10091.**
Stddev	578.	111.	19.0	13.
%RSD	.39679	.41942	.28849	.12560
#1	145650.	26497.	6594.9	10102.
#2	146410.	26651.	6594.3	10095.
#3	145270.	26435.	6561.7	10077.

◀ Zoom In ▶ Zoom Out

Sample Name: STDb Acquired: 4/22/2019 10:41:50 Type: Cal
Method: SGS 3 NO Valve(v286) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7.281**	**12.25**	**4.630**	**2.940**	**.6668**	**1.089**	**3.598**	**2.423**	**.0755**
Stddev	.071	.19	.010	.004	.0005	.001	.028	.003	.0001
%RSD	.9811	1.568	.2141	.1265	.0681	.0802	.7663	.1077	.1884
#1	7.364	12.03	4.636	2.943	.6672	1.089	3.577	2.426	.0754
#2	7.245	12.38	4.636	2.940	.6668	1.089	3.588	2.424	.0757
#3	7.236	12.35	4.619	2.936	.6663	1.088	3.629	2.421	.0755

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.9081**	**6.864**	**.4916**	**.3027**	**1.070**	**.3815**	**.6388**	**3.524**	**8.745**
Stddev	.0007	.012	.0008	.0010	.002	.0004	.0016	.005	.012
%RSD	.0728	.1753	.1681	.3257	.1590	.1028	.2495	.1563	.1329
#1	.9088	6.867	.4923	.3033	1.071	.3811	.6389	3.522	8.732
#2	.9080	6.875	.4907	.3015	1.071	.3818	.6403	3.530	8.754
#3	.9075	6.851	.4919	.3032	1.068	.3817	.6371	3.519	8.749

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5.447**	**.9666**	**1.681**	**6.258**	**1.022**	**3.016**	**2.167**	**.9079**	**13.62**
Stddev	.009	.0011	.003	.004	.001	.003	.003	.0010	.15
%RSD	.1553	.1100	.1602	.0639	.0946	.1011	.1183	.1050	1.124
#1	5.441	.9654	1.680	6.256	1.023	3.019	2.168	.9090	13.79
#2	5.457	.9670	1.684	6.263	1.023	3.015	2.168	.9073	13.50
#3	5.443	.9674	1.678	6.256	1.021	3.013	2.164	.9074	13.56

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.7259**	**1.580**	**2.001**	**.1971**	**.6850**	**1.823**	**.1241**
Stddev	.0005	.001	.025	.0009	.0022	.001	.0009
%RSD	.0754	.0876	1.244	.4780	.3183	.0717	.6888
#1	.7264	1.579	1.973	.1976	.6866	1.822	.1234
#2	.7259	1.581	2.009	.1960	.6859	1.823	.1238
#3	.7253	1.579	2.021	.1976	.6825	1.825	.1250

◀ Zoom In ▶ Zoom Out

Sample Name: STDb Acquired: 4/22/2019 10:41:50 Type: Cal
Method: SGS 3 NO Valve(v286) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**134050.**	**25896.**	**6140.5**	**8888.6**
Stddev	446.	28.	12.9	15.6
%RSD	.33257	.10840	.21081	.17600
#1	133840.	25864.	6153.0	8905.9
#2	134560.	25909.	6127.2	8875.5
#3	133750.	25915.	6141.4	8884.5

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 4/22/2019 10:47:25 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.022**	**2.031**	**2.004**	**2.038**	**1.995**	**1.975**	**2.037**	**2.040**	**.2466**
Stddev	.001	.000	.000	.002	.005	.003	.014	.003	.0006
%RSD	.0394	.0118	.0207	.0792	.2416	.1665	.6889	.1395	.2489
#1	2.022	2.031	2.004	2.039	1.990	1.973	2.021	2.043	.2460
#2	2.023	2.031	2.005	2.039	1.999	1.979	2.041	2.040	.2473
#3	2.022	2.031	2.005	2.036	1.997	1.973	2.048	2.037	.2465
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.998**	**2.028**	**2.006**	**2.072**	**2.034**	**2.003**	**2.012**	**39.69**	**40.06**
Stddev	.005	.003	.001	.006	.004	.002	.000	.01	.02
%RSD	.2285	.1343	.0418	.2878	.1799	.1040	.0130	.0327	.0443
#1	1.993	2.030	2.007	2.066	2.038	2.005	2.011	39.69	40.08
#2	2.001	2.025	2.005	2.077	2.034	2.003	2.012	39.67	40.04
#3	2.000	2.028	2.005	2.075	2.030	2.001	2.012	39.70	40.07
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.16**	**40.23**	**39.99**	**40.46**	**2.032**	**2.017**	**5.248**	**2.047**	**2.008**
Stddev	.02	.01	.04	.03	.001	.002	.004	.003	.002
%RSD	.0456	.0201	.1085	.0628	.0377	.1015	.0812	.1602	.0752
#1	40.18	40.22	39.96	40.44	2.033	2.018	5.246	2.043	2.007
#2	40.15	40.24	39.96	40.44	2.032	2.014	5.244	2.049	2.008
#3	40.17	40.24	40.04	40.48	2.032	2.018	5.253	2.048	2.010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 4/22/2019 10:47:25 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.009**	**1.977**	**2.036**	**1.986**	**2.018**	**1.989**	**2.054**
Stddev	.002	.003	.003	.005	.002	.003	.015
%RSD	.0811	.1311	.1436	.2710	.0758	.1342	.7243
#1	2.011	1.977	2.034	1.980	2.017	1.990	2.040
#2	2.008	1.974	2.039	1.990	2.018	1.986	2.052
#3	2.008	1.980	2.035	1.989	2.020	1.990	2.070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**139280.**	**26503.**	**6356.3**	**9194.5**
Stddev	274.	131.	16.8	18.2
%RSD	.19686	.49354	.26475	.19813
#1	139590.	26405.	6354.1	9185.9
#2	139120.	26651.	6374.1	9215.5
#3	139110.	26451.	6340.7	9182.2

Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 4/22/2019 10:52:27 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0000**	**-.0000**	**-.0002**	**.0003**	**.0003**	**-.0000**	**.0000**
Stddev	.0002	.0000	.0001	.0001	.0002	.0005	.0000	.0001
%RSD	63.50	96.31	2170.	61.42	60.17	145.4	448.3	3516.
#1	-.0006	.0001	.0000	-.0003	.0004	.0006	-.0000	.0002
#2	-.0003	.0000	.0001	-.0003	.0001	.0005	.0000	-.0001
#3	-.0001	.0000	-.0001	-.0001	.0004	-.0002	-.0000	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0004**	**.0000**	**.0000**	**.0008**	**.0000**	**-.0011**	**.0004**
Stddev	.0002	.0001	.0001	.0009	.0006	.0010	.0023	.0007
%RSD	211.9	37.75	1066.	5216.	73.75	2370.	215.5	166.5
#1	.0000	-.0006	.0001	-.0006	.0010	.0011	-.0018	.0011
#2	.0000	-.0003	-.0000	.0010	.0013	-.0010	-.0030	-.0001
#3	-.0003	-.0003	-.0000	-.0004	.0001	.0001	.0015	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0058**	**-.0035**	**.0010**	**-.0005**	**.1486**	**.0901**	**.0029**	**.0000**
Stddev	.0064	.0010	.0017	.0081	.0116	.0054	.0001	.0002
%RSD	109.0	29.57	182.6	1636.	7.823	5.941	2.227	373.6
#1	-.0127	-.0026	.0011	-.0098	.1351	.0952	.0030	-.0001
#2	-.0045	-.0047	.0026	.0043	.1554	.0907	.0029	.0002
#3	-.0002	-.0033	-.0009	.0040	.1551	.0845	.0030	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 4/22/2019 10:52:27 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0003**	**-.0000**	**-.0004**	**-.0002**	**.0001**	**-.0011**	**.0006**
Stddev	.0008	.0003	.0001	.0001	.0007	.0002	.0016	.0005
%RSD	449.5	103.7	234.1	17.88	302.1	133.6	152.6	88.31
#1	.0005	.0005	.0001	-.0004	.0003	-.0001	.0000	-.0000
#2	.0000	.0004	-.0001	-.0004	-.0011	.0002	-.0029	.0009
#3	-.0011	-.0000	-.0001	-.0003	.0001	.0003	-.0003	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	F **-.0044**	**-.0030**
Stddev	.0011	.0017
%RSD	24.70	54.62
#1	-.0052	-.0039
#2	-.0032	-.0041
#3	-.0048	-.0011
Check ?	Chk Fail	Chk Pass
High Limit	.0040	
Low Limit	-.0040	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147280.**	**26702.**	**6601.0**	**10112.**
Stddev	429.	129.	9.5	7.
%RSD	.29131	.48470	.14332	.06848
#1	147510.	26566.	6611.6	10119.
#2	147550.	26823.	6593.3	10105.
#3	146790.	26718.	6598.2	10112.

Zoom In Zoom Out

Sample Name: icv 1 Acquired: 4/22/2019 10:57:36 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.047**	**2.043**	**1.985**	**2.043**	**1.967**	**1.966**	**2.022**	**2.007**	**.2562**
Stddev	.037	.037	.003	.001	.014	.015	.022	.001	.0023
%RSD	1.825	1.830	.1516	.0604	.7280	.7451	1.101	.0464	.9097
#1	2.007	2.004	1.988	2.043	1.958	1.956	2.030	2.007	.2540
#2	2.081	2.079	1.984	2.042	1.960	1.959	1.997	2.006	.2559
#3	2.052	2.048	1.982	2.044	1.984	1.983	2.039	2.008	.2587
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.987**	**1.981**	**1.994**	**2.043**	**1.992**	**1.970**	**1.978**	**40.46**	**40.44**
Stddev	.013	.003	.004	.008	.003	.003	.004	.77	.72
%RSD	.6318	.1498	.2234	.3805	.1692	.1572	.2117	1.892	1.771
#1	1.981	1.984	1.999	2.052	1.994	1.971	1.983	39.64	39.72
#2	1.979	1.979	1.992	2.038	1.988	1.973	1.975	41.16	41.15
#3	2.002	1.980	1.991	2.039	1.993	1.967	1.977	40.59	40.46
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.85**	**41.11**	**40.91**	**41.49**	**2.015**	**1.997**	F **5.410**	**2.013**	**2.030**
Stddev	.72	.75	.85	.81	.003	.003	.007	.006	.037
%RSD	1.769	1.812	2.082	1.963	.1228	.1620	.1367	.3184	1.847
#1	40.10	40.35	40.05	40.71	2.018	2.001	5.418	2.020	1.993
#2	41.55	41.84	41.75	42.34	2.013	1.995	5.406	2.012	2.068
#3	40.91	41.14	40.92	41.42	2.014	1.995	5.405	2.007	2.030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value							5.000		
Range							5.000%		

Zoom In Zoom Out

Sample Name: icv 1 Acquired: 4/22/2019 10:57:36 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.010**	**1.937**	**2.019**	**2.003**	**1.993**	**2.058**	**1.998**
Stddev	.012	.007	.012	.007	.003	.040	.009
%RSD	.6148	.3676	.5966	.3380	.1269	1.918	.4654
#1	2.003	1.944	2.012	2.011	1.995	2.016	1.990
#2	2.003	1.930	2.011	1.999	1.990	2.095	1.996
#3	2.024	1.939	2.032	1.999	1.993	2.062	2.008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**137350.**	**25690.**	**6324.5**	**9150.2**
Stddev	1113.	452.	9.2	7.0
%RSD	.81043	1.7591	.14510	.07653
#1	138060.	26009.	6317.6	9146.7
#2	137930.	25173.	6321.0	9145.6
#3	136070.	25887.	6334.9	9158.2

Zoom In Zoom Out

Sample Name: icb 7 Acquired: 4/22/2019 11:02:38 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0000**	**-.0000**	**-.0002**	**-.0000**	**.0002**	**.0000**	**.0001**	**-.0003**
Stddev	.0000	.0000	.0002	.0002	.0002	.0004	.0000	.0004	.0002
%RSD	17.83	38.90	913.1	84.96	4574.	178.2	121.9	288.7	67.18
#1	.0002	.0000	-.0001	-.0002	-.0002	-.0002	.0001	.0001	-.0004
#2	.0001	.0000	.0002	-.0003	.0000	.0002	.0000	.0005	-.0001
#3	.0002	.0000	-.0002	-.0000	.0002	.0006	.0000	-.0002	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0001**	**-.0004**	**.0005**	**.0003**	**-.0016**	**.0004**	**.0046**	**-.0020**
Stddev	.0002	.0001	.0019	.0013	.0009	.0004	.0009	.0092	.0014
%RSD	66.60	90.13	430.5	270.8	279.8	23.93	228.5	201.2	69.62
#1	-.0003	.0001	.0017	.0001	.0007	-.0013	-.0003	-.0028	-.0033
#2	-.0006	.0001	-.0021	.0019	-.0007	-.0020	.0014	.0016	-.0005
#3	-.0002	.0000	-.0009	-.0005	.0009	-.0016	.0001	.0150	-.0022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**.0043**	**.0657**	**.0421**	**.0029**	**.0002**	**-.0006**	**.0003**	**.0001**
Stddev	.0003	.0115	.0251	.0053	.0001	.0002	.0006	.0006	.0000
%RSD	31.71	263.9	38.15	12.68	4.504	128.7	99.97	200.5	33.73
#1	.0008	.0165	.0817	.0409	.0028	.0000	-.0013	-.0000	.0001
#2	.0007	.0028	.0786	.0374	.0030	.0004	-.0005	-.0001	.0001
#3	.0012	-.0062	.0368	.0479	.0031	.0000	-.0001	.0011	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: icb 7 Acquired: 4/22/2019 11:02:38 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0012**	**.0002**	**-.0009**	**.0019**	**-.0001**	**.0057**
Stddev	.0003	.0003	.0000	.0034	.0009	.0021	.0017
%RSD	350.1	28.41	15.33	360.5	48.39	1607.	29.63
#1	.0002	.0015	.0003	.0003	.0022	-.0006	.0063
#2	-.0001	.0013	.0002	.0016	.0026	.0021	.0038
#3	-.0004	.0008	.0002	-.0047	.0008	-.0019	.0070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142110.**	**26329.**	**6592.1**	**10083.**
Stddev	7021.	62.	12.5	15.
%RSD	4.9404	.23412	.18897	.15011
#1	146480.	26400.	6598.4	10087.
#2	134010.	26291.	6577.8	10066.
#3	145840.	26297.	6600.2	10095.

Zoom In Zoom Out

Sample Name: CRICONF Acquired: 4/22/2019 11:07:49 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2008**	**.0021**	**.0031**	**.0501**	**.0103**	**.0096**	**.0157**	**.0099**	**.0049**
Stddev	.0003	.0001	.0002	.0002	.0002	.0003	.0000	.0005	.0003
%RSD	.1564	3.845	5.328	.3240	2.125	2.923	.0705	4.830	5.567
#1	.2012	.0020	.0033	.0503	.0105	.0097	.0157	.0095	.0046
#2	.2007	.0020	.0030	.0499	.0104	.0093	.0157	.0096	.0051
#3	.2006	.0022	.0031	.0501	.0101	.0099	.0157	.0104	.0051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0498**	**.0206**	**.0076**	**.0097**	**.0031**	**.0092**	F **.0072**	**.2104**	**5.176**
Stddev	.0001	.0001	.0008	.0011	.0003	.0017	.0015	.0067	.007
%RSD	.2815	.4208	10.43	10.92	10.02	18.28	20.25	3.206	.1274
#1	.0499	.0205	.0085	.0086	.0030	.0087	.0089	.2026	5.178
#2	.0497	.0206	.0071	.0107	.0028	.0111	.0065	.2146	5.180
#3	.0498	.0207	.0072	.0100	.0034	.0079	.0062	.2141	5.168
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value							.0060		
Range							20.00%		

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1066**	**5.316**	**5.218**	**5.322**	**.1030**	**.0211**	**.2145**	**.0109**	**.0101**
Stddev	.0027	.004	.026	.007	.0009	.0004	.0009	.0003	.0000
%RSD	2.503	.0673	.5046	.1354	.8674	1.936	.4040	2.848	.3751
#1	.1073	5.314	5.233	5.320	.1035	.0207	.2136	.0112	.0101
#2	.1037	5.320	5.233	5.330	.1019	.0215	.2148	.0106	.0100
#3	.1089	5.314	5.188	5.316	.1035	.0210	.2153	.0108	.0101
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CRICONF Acquired: 4/22/2019 11:07:49 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0101**	**.0534**	**.0111**	**.0505**	**.0236**	**.0535**	**.0546**
Stddev	.0001	.0004	.0001	.0029	.0013	.0031	.0023
%RSD	.9312	.7954	1.110	5.687	5.596	5.752	4.264
#1	.0102	.0538	.0110	.0491	.0221	.0569	.0572
#2	.0102	.0531	.0112	.0485	.0239	.0511	.0527
#3	.0100	.0531	.0111	.0538	.0247	.0524	.0540
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143840.**	**26388.**	**6493.5**	**9721.7**
Stddev	812.	109.	10.3	2.9
%RSD	.56466	.41411	.15896	.02943
#1	142950.	26455.	6505.4	9720.3
#2	144040.	26262.	6488.4	9725.0
#3	144530.	26447.	6486.8	9719.8

Zoom In Zoom Out

Sample Name: ICCV 1 Acquired: 4/22/2019 11:13:11 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.015**	**2.019**	**2.002**	**2.036**	**1.996**	**1.979**	**2.020**	**2.038**	**.2470**
Stddev	.025	.026	.002	.002	.005	.005	.009	.001	.0009
%RSD	1.227	1.274	.0905	.0784	.2340	.2777	.4362	.0705	.3839
#1	1.980	1.982	2.002	2.037	1.990	1.970	2.030	2.039	.2456
#2	2.037	2.042	2.002	2.036	1.998	1.981	2.009	2.039	.2476
#3	2.025	2.028	2.000	2.034	1.998	1.982	2.020	2.036	.2470
#4	2.019	2.023	2.005	2.036	2.000	1.980	2.021	2.038	.2476
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.994**	**2.026**	**2.000**	**2.057**	**2.033**	**1.996**	**2.007**	**39.54**	**39.97**
Stddev	.005	.002	.008	.015	.003	.006	.003	.49	.51
%RSD	.2530	.1138	.3830	.7158	.1235	.2875	.1572	1.229	1.274
#1	1.988	2.027	2.003	2.068	2.035	2.000	2.005	38.85	39.25
#2	1.999	2.025	2.004	2.072	2.031	2.001	2.006	39.99	40.43
#3	1.993	2.024	1.989	2.043	2.031	1.989	2.007	39.73	40.17
#4	1.996	2.029	2.004	2.046	2.035	1.994	2.012	39.59	40.04
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICCV 1 Acquired: 4/22/2019 11:13:11 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.95**	**40.15**	**39.83**	**40.51**	**2.029**	**2.017**	**5.236**	**2.040**	**2.005**
Stddev	.50	.51	.45	.45	.004	.004	.004	.004	.025
%RSD	1.248	1.281	1.121	1.121	.2010	.1919	.0704	.1888	1.227
#1	39.23	39.41	39.22	39.86	2.027	2.019	5.237	2.043	1.969
#2	40.39	40.59	40.25	40.90	2.028	2.020	5.235	2.042	2.024
#3	40.14	40.38	40.04	40.71	2.027	2.011	5.231	2.035	2.014
#4	40.02	40.22	39.79	40.57	2.035	2.017	5.240	2.038	2.013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.010**	**1.979**	**2.033**	**1.958**	**2.019**	**1.981**	**2.004**
Stddev	.005	.002	.005	.010	.005	.028	.008
%RSD	.2469	.1065	.2498	.5205	.2351	1.401	.4148
#1	2.003	1.978	2.025	1.969	2.023	1.942	2.002
#2	2.014	1.981	2.036	1.963	2.019	2.007	1.993
#3	2.010	1.977	2.034	1.956	2.012	1.990	2.012
#4	2.012	1.981	2.036	1.946	2.021	1.984	2.008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Zoom In Zoom Out

Sample Name: ICCV 1 Acquired: 4/22/2019 11:13:11 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**138870.**	**26209.**	**6338.0**	**9167.8**
Stddev	353.	369.	14.9	14.9
%RSD	.25408	1.4073	.23569	.16201
#1	138990.	26722.	6352.8	9181.0
#2	139250.	25914.	6348.2	9180.3
#3	138850.	25969.	6329.5	9155.3
#4	138400.	26230.	6321.4	9154.6

Zoom In Zoom Out

Sample Name: CCB 7 Acquired: 4/22/2019 11:22:44 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0002**	**.0002**	**.0001**	**.0005**	**.0002**	**.0004**	**.0004**	**-.0004**
Stddev	.0001	.0001	.0001	.0002	.0003	.0001	.0001	.0002	.0004
%RSD	40.90	59.90	25.14	175.3	73.53	90.57	13.67	46.37	106.9
#1	.0004	.0003	.0002	-.0001	.0008	.0001	.0003	.0007	-.0009
#2	.0002	.0002	.0002	.0002	.0001	.0003	.0005	.0004	-.0001
#3	.0002	.0001	.0003	.0001	.0005	.0000	.0004	.0003	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0004**	**-.0001**	**.0009**	**.0006**	**-.0013**	**.0006**	**-.0024**	**.0030**
Stddev	.0003	.0001	.0009	.0011	.0005	.0010	.0009	.0062	.0003
%RSD	344.5	18.65	752.7	130.7	80.97	77.36	167.9	259.6	10.10
#1	-.0001	.0005	.0006	.0020	.0004	-.0004	.0014	.0043	.0033
#2	-.0003	.0004	.0002	-.0003	.0011	-.0011	-.0004	-.0080	.0027
#3	.0002	.0004	-.0011	.0010	.0002	-.0023	.0007	-.0035	.0031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0036**	**.0019**	**.1550**	**.0772**	**.0036**	**.0006**	**-.0001**	**.0002**	**.0002**
Stddev	.0007	.0047	.0355	.0177	.0002	.0001	.0002	.0004	.0000
%RSD	20.37	246.9	22.90	22.89	5.622	22.62	201.6	196.0	12.92
#1	.0041	.0071	.1406	.0975	.0037	.0008	-.0000	.0005	.0002
#2	.0039	-.0021	.1954	.0654	.0038	.0005	-.0003	.0004	.0003
#3	.0028	.0008	.1289	.0686	.0034	.0006	.0000	-.0003	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB 7 Acquired: 4/22/2019 11:22:44 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0011**	**.0005**	**-.0004**	**.0015**	**-.0026**	**.0012**
Stddev	.0003	.0009	.0001	.0005	.0011	.0015	.0015
%RSD	271.2	83.17	16.25	106.6	74.67	56.01	123.0
#1	-.0002	.0020	.0004	.0001	.0028	-.0011	.0016
#2	.0002	.0002	.0006	-.0008	.0009	-.0028	.0026
#3	.0003	.0011	.0005	-.0006	.0008	-.0040	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146780.**	**26259.**	**6575.9**	**10064.**
Stddev	634.	115.	11.0	17.
%RSD	.43187	.43899	.16750	.17105
#1	146280.	26145.	6588.2	10082.
#2	147490.	26375.	6572.5	10063.
#3	146570.	26256.	6567.0	10048.

Zoom In Zoom Out

Sample Name: CRI Acquired: 4/22/2019 11:27:28 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2009**	**.0021**	**.0030**	**.0505**	**.0104**	**.0095**	**.0158**	**.0103**	**.0048**
Stddev	.0005	.0001	.0001	.0001	.0003	.0002	.0000	.0001	.0003
%RSD	.2242	3.412	2.048	.1106	2.931	2.155	.2294	.6314	6.546
#1	.2013	.0020	.0029	.0504	.0104	.0095	.0158	.0103	.0045
#2	.2009	.0020	.0030	.0504	.0107	.0098	.0158	.0102	.0047
#3	.2004	.0021	.0030	.0505	.0101	.0094	.0158	.0104	.0051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0498**	**.0206**	**.0078**	**.0101**	**.0028**	**.0087**	**.0069**	**.2037**	**5.173**
Stddev	.0000	.0001	.0007	.0008	.0004	.0012	.0018	.0114	.003
%RSD	.0609	.2482	9.264	8.202	13.31	14.27	26.36	5.593	.0562
#1	.0498	.0206	.0084	.0109	.0023	.0073	.0060	.2151	5.176
#2	.0498	.0207	.0070	.0093	.0030	.0096	.0057	.1923	5.172
#3	.0498	.0207	.0079	.0102	.0029	.0092	.0090	.2038	5.171
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1061**	**5.306**	**5.198**	**5.381**	**.1030**	**.0211**	**.2155**	**.0111**	**.0100**
Stddev	.0002	.022	.025	.009	.0006	.0002	.0011	.0007	.0000
%RSD	.1718	.4130	.4727	.1640	.6070	1.137	.5295	6.410	.3952
#1	.1059	5.312	5.198	5.389	.1036	.0213	.2167	.0119	.0100
#2	.1062	5.282	5.222	5.372	.1031	.0212	.2153	.0111	.0099
#3	.1062	5.324	5.173	5.383	.1024	.0208	.2144	.0104	.0100
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CRI Acquired: 4/22/2019 11:27:28 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0104**	**.0526**	**.0110**	**.0516**	**.0225**	**.0544**	**.0496**
Stddev	.0002	.0009	.0001	.0015	.0012	.0013	.0018
%RSD	1.877	1.637	.5699	2.855	5.186	2.432	3.549
#1	.0105	.0525	.0110	.0499	.0218	.0535	.0507
#2	.0105	.0517	.0109	.0522	.0219	.0559	.0505
#3	.0102	.0535	.0110	.0526	.0239	.0538	.0476
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143760.**	**26339.**	**6498.6**	**9730.1**
Stddev	597.	182.	16.9	18.0
%RSD	.41500	.69079	.26047	.18474
#1	144450.	26199.	6516.0	9750.5
#2	143400.	26544.	6482.3	9716.6
#3	143430.	26273.	6497.4	9723.3

Zoom In Zoom Out

Sample Name: CRID Acquired: 4/22/2019 11:32:30 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0043**	**.0011**	**.0011**	**.0030**	F **.0025**	F **.0004**	**.0036**	**.0047**	F **.0001**
Stddev	.0002	.0000	.0001	.0002	.0002	.0002	.0000	.0007	.0002
%RSD	4.063	4.169	11.04	7.046	9.000	49.67	1.156	14.16	144.1
#1	.0044	.0011	.0012	.0031	.0024	.0002	.0036	.0042	.0000
#2	.0043	.0012	.0010	.0032	.0027	.0003	.0036	.0055	.0004
#3	.0041	.0011	.0010	.0028	.0023	.0006	.0035	.0045	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Fail
Value					.0020	.0020			.0020
Range					20.00%	-20.00%			-20.00%

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0018**	**.0117**	**.0033**	F **.0025**	F **.0004**	F **.0024**	F **.0019**	**.1138**	**1.155**
Stddev	.0002	.0002	.0004	.0003	.0005	.0018	.0006	.0108	.003
%RSD	11.53	1.320	12.87	11.12	108.2	73.98	30.47	9.511	.2178
#1	.0017	.0116	.0032	.0026	.0001	.0016	.0026	.1013	1.154
#2	.0020	.0117	.0037	.0028	.0009	.0045	.0015	.1207	1.158
#3	.0016	.0119	.0029	.0022	.0002	.0012	.0018	.1193	1.154
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Pass	Chk Pass
Value				.0020	.0025	.0050	.0030		
Range				20.00%	-20.00%	-20.00%	-20.00%		

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0034**	**.1159**	**2.337**	F **1.223**	**.0021**	**.0002**	**.0028**	**-.0007**	**.0000**
Stddev	.0007	.0091	.018	.009	.0005	.0002	.0017	.0003	.0001
%RSD	21.12	7.863	.7872	.6920	23.90	117.3	61.92	45.95	183.6
#1	.0043	.1107	2.358	1.230	.0026	.0003	.0025	-.0011	-.0000
#2	.0032	.1264	2.328	1.224	.0016	-.0001	.0012	-.0004	.0001
#3	.0028	.1105	2.324	1.213	.0020	.0004	.0046	-.0006	.0000
Check ?	None	Chk Pass	Chk Pass	Chk Fail	None	None	None	None	None
Value				1.000					
Range				20.00%					

Zoom In Zoom Out

Sample Name: CRID Acquired: 4/22/2019 11:32:30 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0009**	**.0001**	**.0019**	**.0014**	**-.0007**	**-.0043**
Stddev	.0003	.0002	.0002	.0010	.0013	.0013	.0012
%RSD	127.9	17.74	281.0	54.83	93.09	173.2	27.63
#1	.0001	.0008	.0002	.0017	-.0000	-.0022	-.0039
#2	-.0005	.0010	.0001	.0010	.0018	-.0001	-.0056
#3	-.0003	.0011	-.0001	.0030	.0025	.0001	-.0033
Check ?	None	None	None	None	None	None	None
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**145260.**	**26415.**	**6578.0**	**9999.6**
Stddev	241.	71.	18.8	29.1
%RSD	.16562	.26882	.28566	.29142
#1	145520.	26462.	6599.0	10033.
#2	145050.	26334.	6572.0	9979.8
#3	145220.	26450.	6562.9	9986.0

Zoom In Zoom Out

Sample Name: ICSA Acquired: 4/22/2019 11:37:36 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0001**	**-.0003**	**.0011**	**-.0004**	**-.0037**	**.0010**	**-.0004**	**.0041**
Stddev	.0002	.0001	.0001	.0001	.0005	.0004	.0002	.0004	.0003
%RSD	33.91	47.08	44.19	9.188	115.7	10.94	17.37	107.3	8.461
#1	.0004	.0001	-.0005	.0011	-.0004	-.0035	.0009	-.0004	.0037
#2	.0004	.0001	-.0003	.0010	.0001	-.0035	.0012	.0000	.0042
#3	.0007	.0002	-.0002	.0012	-.0008	-.0042	.0009	-.0008	.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0015**	**-.0013**	**-.0003**	**-.0012**	**-.0004**	**.0023**	**.0001**	**497.6**	**384.3**
Stddev	.0004	.0001	.0019	.0028	.0018	.0040	.0012	3.0	2.7
%RSD	26.38	4.870	673.6	233.8	512.3	174.7	1679.	.6049	.6945
#1	-.0013	-.0014	-.0018	-.0036	.0013	.0050	.0000	495.8	387.3
#2	-.0020	-.0013	.0019	.0019	-.0001	-.0023	-.0011	501.1	382.3
#3	-.0013	-.0014	-.0009	-.0019	-.0023	.0041	.0013	495.9	383.3
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**188.9**	**496.3**	**.3658**	**.1577**	**.0006**	**.0007**	**.0035**	**-.0026**	**-.0004**
Stddev	1.5	.5	.0102	.0136	.0003	.0002	.0008	.0008	.0000
%RSD	.7711	.1038	2.786	8.622	41.85	20.98	23.49	29.74	8.595
#1	188.7	496.9	.3728	.1510	.0009	.0008	.0026	-.0017	-.0005
#2	190.5	496.0	.3705	.1734	.0005	.0008	.0037	-.0031	-.0004
#3	187.6	496.0	.3541	.1488	.0004	.0006	.0041	-.0031	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ICSA Acquired: 4/22/2019 11:37:36 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0016**	**.0008**	**-.0009**	**.0106**	**-.0022**	**-.0090**	**.0206**
Stddev	.0003	.0015	.0002	.0033	.0013	.0014	.0024
%RSD	20.16	180.0	26.63	31.14	59.47	15.88	11.50
#1	-.0015	.0018	-.0009	.0077	-.0034	-.0094	.0220
#2	-.0020	.0016	-.0006	.0099	-.0008	-.0101	.0218
#3	-.0013	-.0009	-.0011	.0142	-.0024	-.0074	.0178
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**125600.**	**25248.**	**5863.5**	**8324.0**
Stddev	706.	34.	18.6	16.0
%RSD	.56173	.13654	.31758	.19263
#1	126400.	25283.	5847.5	8309.8
#2	125080.	25214.	5883.9	8341.4
#3	125310.	25245.	5859.1	8320.9

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/22/2019 11:42:58 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5073**	**.4895**	**.9986**	**.4876**	**.4837**	**.4970**	**.5103**	**.9679**	**1.126**
Stddev	.0014	.0018	.0011	.0009	.0007	.0008	.0004	.0008	.001
%RSD	.2755	.3609	.1107	.1836	.1380	.1521	.0838	.0824	.1264
#1	.5074	.4900	.9982	.4883	.4831	.4966	.5102	.9670	1.124
#2	.5087	.4910	.9998	.4878	.4844	.4979	.5099	.9684	1.127
#3	.5059	.4876	.9977	.4866	.4835	.4965	.5108	.9682	1.125
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4946**	**.9490**	**1.069**	**.9740**	**.9503**	**1.046**	**1.067**	**501.7**	**377.9**
Stddev	.0004	.0014	.002	.0054	.0028	.007	.004	4.8	2.8
%RSD	.0870	.1425	.1787	.5590	.2949	.7187	.3694	.9552	.7468
#1	.4944	.9474	1.069	.9682	.9479	1.038	1.070	498.3	377.9
#2	.4951	.9499	1.068	.9791	.9496	1.052	1.068	507.2	375.2
#3	.4943	.9496	1.072	.9747	.9534	1.049	1.063	499.6	380.8
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**194.6**	**500.6**	**.2862**	**.1461**	**.4773**	**.4841**	**.5079**	**.4712**	**.5062**
Stddev	2.2	1.6	.0361	.0082	.0009	.0014	.0022	.0017	.0011
%RSD	1.143	.3164	12.60	5.609	.1909	.2885	.4401	.3693	.2230
#1	192.1	500.8	.2467	.1369	.4763	.4825	.5060	.4696	.5067
#2	195.5	502.1	.3173	.1486	.4776	.4847	.5073	.4711	.5069
#3	196.2	498.9	.2944	.1527	.4781	.4851	.5104	.4730	.5049
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/22/2019 11:42:58 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5036**	**.4748**	**.4912**	**.5139**	**.5055**	**.5217**	**.5432**
Stddev	.0006	.0023	.0002	.0032	.0019	.0028	.0019
%RSD	.1153	.4894	.0492	.6187	.3676	.5343	.3407
#1	.5042	.4733	.4910	.5111	.5072	.5249	.5439
#2	.5031	.4775	.4913	.5174	.5035	.5200	.5411
#3	.5034	.4737	.4914	.5132	.5056	.5202	.5447
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**126430.**	**25354.**	**5878.6**	**8372.1**
Stddev	310.	32.	17.7	16.3
%RSD	.24554	.12791	.30130	.19507
#1	126780.	25342.	5897.5	8388.4
#2	126260.	25330.	5862.4	8355.8
#3	126230.	25391.	5875.8	8372.2

Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/22/2019 11:48:16 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.001**	**7.973**	**7.943**	**7.975**	**8.116**	**7.856**	**8.003**	**8.010**	**.6683**
Stddev	.108	.040	.042	.030	.007	.018	.074	.033	.0011
%RSD	1.355	.4988	.5246	.3805	.0917	.2339	.9209	.4066	.1677
#1	8.115	7.969	7.983	7.993	8.113	7.856	8.033	8.027	.6670
#2	7.900	7.936	7.900	7.940	8.124	7.838	7.919	7.972	.6691
#3	7.988	8.015	7.946	7.993	8.110	7.874	8.057	8.030	.6688
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.018**	**8.210**	**8.234**	**8.289**	**8.150**	**8.095**	**8.374**	**.1928**	**.0816**
Stddev	.007	.044	.041	.043	.031	.040	.035	.0075	.0049
%RSD	.0889	.5351	.4939	.5122	.3799	.4896	.4192	3.902	5.998
#1	8.016	8.247	8.262	8.319	8.175	8.122	8.405	.1914	.0771
#2	8.025	8.162	8.188	8.240	8.115	8.049	8.336	.1860	.0868
#3	8.011	8.221	8.253	8.307	8.160	8.113	8.382	.2009	.0810
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0198**	**.1160**	**.5540**	**.1582**	**8.169**	**8.432**	**27.08**	**8.605**	**7.887**
Stddev	.0005	.0021	.0172	.0145	.032	.043	.13	.043	.074
%RSD	2.497	1.845	3.111	9.180	.3917	.5041	.4798	.4998	.9407
#1	.0193	.1136	.5655	.1436	8.194	8.465	27.16	8.640	7.946
#2	.0199	.1168	.5623	.1584	8.133	8.384	26.93	8.557	7.911
#3	.0203	.1177	.5342	.1727	8.180	8.446	27.14	8.618	7.804
Check ?	None	None	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/22/2019 11:48:16 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.260**	**8.489**	**8.269**	**96.90**	**8.528**	**8.076**	**8.171**
Stddev	.108	.038	.099	.63	.043	.012	.039
%RSD	1.311	.4511	1.201	.6524	.5030	.1487	.4760
#1	8.349	8.525	8.381	97.31	8.568	8.074	8.198
#2	8.140	8.449	8.231	96.17	8.483	8.065	8.126
#3	8.292	8.495	8.194	97.21	8.534	8.089	8.189
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**141080.**	**26323.**	**6338.4**	**9732.8**
Stddev	168.	2.	29.1	37.2
%RSD	.11902	.00731	.45969	.38208
#1	140980.	26321.	6311.1	9703.2
#2	140980.	26325.	6369.1	9774.6
#3	141270.	26323.	6335.0	9720.7

Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/22/2019 11:54:10 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0005**	**.0000**	**.0015**	**-.0002**	**-.0020**	**.0016**	**.0002**	**.0045**
Stddev	.0002	.0000	.0002	.0002	.0003	.0002	.0002	.0003	.0004
%RSD	28.04	9.413	896.4	10.96	158.5	10.90	13.58	135.3	8.473
#1	.0009	.0005	.0000	.0013	-.0003	-.0017	.0019	.0001	.0047
#2	.0005	.0005	.0002	.0016	.0001	-.0021	.0015	.0000	.0041
#3	.0006	.0005	-.0001	.0017	-.0003	-.0021	.0016	.0006	.0047
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0017**	**-.0006**	**.0018**	**-.0010**	**.0006**	**.0018**	**.0007**	**318.3**	**203.5**
Stddev	.0005	.0001	.0004	.0009	.0020	.0009	.0017	1.3	1.5
%RSD	28.84	13.37	21.43	92.88	360.1	46.54	260.7	.3931	.7209
#1	-.0021	-.0006	.0018	-.0000	.0024	.0009	.0016	318.7	201.8
#2	-.0018	-.0005	.0014	-.0018	-.0016	.0024	.0018	319.4	204.5
#3	-.0012	-.0007	.0022	-.0011	.0008	.0023	-.0013	316.9	204.1
Check ?	None	None	None	None	None	None	None	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**202.2**	**311.0**	**205.2**	**206.8**	**.0060**	**.0013**	**.0361**	**-.0026**	**-.0001**
Stddev	1.9	.5	.4	1.2	.0005	.0003	.0014	.0009	.0001
%RSD	.9523	.1553	.1897	.5753	7.970	20.84	3.868	33.77	100.1
#1	204.2	311.5	205.5	208.2	.0065	.0011	.0374	-.0031	-.0002
#2	200.4	310.5	204.8	206.4	.0057	.0016	.0364	-.0016	-.0002
#3	202.2	311.1	205.3	206.0	.0057	.0012	.0346	-.0031	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None	None	None	None
Value									
Range									

Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/22/2019 11:54:10 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0006**	**.0011**	**.0001**	**.0057**	**-.0033**	**.0080**	**.0172**
Stddev	.0004	.0007	.0002	.0004	.0008	.0023	.0015
%RSD	73.53	64.47	135.7	6.907	24.74	28.40	8.664
#1	-.0007	.0018	.0002	.0060	-.0042	.0055	.0179
#2	-.0009	.0004	.0003	.0052	-.0027	.0099	.0155
#3	-.0001	.0011	-.0001	.0058	-.0030	.0087	.0182
Check ?	None	None	None	None	None	None	None
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**126850.**	**25036.**	**5870.1**	**8269.7**
Stddev	164.	152.	4.3	3.6
%RSD	.12899	.60801	.07261	.04296
#1	126870.	24937.	5869.0	8271.2
#2	127000.	25211.	5866.4	8265.6
#3	126680.	24961.	5874.8	8272.3

Zoom In Zoom Out

Sample Name: FECONF Acquired: 4/22/2019 11:59:45 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0000**	**-.0003**	**.0013**	**-.0008**	**-.0034**	**.0023**	**-.0000**
Stddev	.0002	.0000	.0002	.0003	.0002	.0009	.0003	.0002
%RSD	65.57	369.1	62.17	18.72	23.59	25.99	12.40	1428.
#1	-.0005	.0000	-.0003	.0013	-.0010	-.0036	.0021	-.0003
#2	-.0002	-.0001	-.0005	.0016	-.0007	-.0043	.0021	.0001
#3	-.0002	-.0000	-.0001	.0011	-.0007	-.0025	.0026	.0001

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0041**	**-.0014**	**-.0009**	**-.0008**	F **-.0040**	**.0017**	**-.0001**	**.0018**
Stddev	.0005	.0001	.0001	.0010	.0014	.0002	.0015	.0015
%RSD	12.99	10.13	8.838	129.0	35.65	13.62	2275.	86.41
#1	.0040	-.0015	-.0009	-.0016	-.0026	.0016	-.0003	.0005
#2	.0036	-.0012	-.0008	-.0011	-.0055	.0019	-.0014	.0034
#3	.0047	-.0014	-.0010	.0004	-.0039	.0015	.0015	.0014

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0125**	**.0068**	F **215.7**	**-.0023**	**.3368**	**.1873**	**.0023**	**.0005**
Stddev	.0086	.0014	3.9	.0056	.0490	.0127	.0003	.0003
%RSD	68.69	21.18	1.786	241.1	14.56	6.762	11.28	66.02
#1	-.0144	.0081	213.0	-.0086	.3922	.2019	.0026	.0001
#2	-.0031	.0070	213.9	.0020	.2988	.1806	.0021	.0006
#3	-.0200	.0052	220.1	-.0003	.3195	.1794	.0022	.0007

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0133**	**.0002**	**.0000**	**.0005**	**.0037**	**-.0008**	**-.0052**	**.0015**
Stddev	.0018	.0001	.0001	.0002	.0013	.0000	.0018	.0024
%RSD	13.58	43.41	463.8	28.88	34.64	1.063	34.79	164.6
#1	.0113	.0003	.0000	.0004	.0034	-.0008	-.0052	.0032
#2	.0139	.0002	.0001	.0007	.0051	-.0008	-.0034	.0026
#3	.0147	.0001	-.0001	.0005	.0026	-.0008	-.0071	-.0013

Zoom In Zoom Out

Sample Name: FECONF Acquired: 4/22/2019 11:59:45 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0169**	**.0014**
Stddev	.0023	.0021
%RSD	13.79	154.0
#1	-.0195	.0026
#2	-.0159	.0025
#3	-.0152	-.0011

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142310.**	**26402.**	**6429.9**	**9949.7**
Stddev	840.	51.	26.1	35.6
%RSD	.59011	.19349	.40566	.35781
#1	143110.	26358.	6402.4	9911.4
#2	142400.	26389.	6454.3	9981.8
#3	141440.	26458.	6432.9	9955.8

Zoom In Zoom Out

Sample Name: CRCONF Acquired: 4/22/2019 12:05:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0000**	**-.0002**	**-.0010**	F **9.666**	**.0003**	**-.0013**	**.0001**	**-.0005**
Stddev	.0005	.0000	.0001	.0001	.097	.0002	.0000	.0004	.0004
%RSD	166.9	77.21	33.86	5.600	1.001	50.30	1.149	260.0	83.28
#1	.0001	-.0000	-.0002	-.0011	9.769	.0001	-.0013	.0004	-.0008
#2	-.0001	-.0001	-.0001	-.0010	9.651	.0004	-.0013	.0003	-.0000
#3	-.0009	-.0000	-.0002	-.0010	9.577	.0004	-.0013	-.0003	-.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0117**	**.0030**	**.0024**	**-.0004**	**.0004**	**-.0026**	**.0017**	**-.0047**	**.0076**
Stddev	.0003	.0002	.0004	.0013	.0007	.0006	.0011	.0086	.0014
%RSD	2.240	5.730	18.64	302.5	178.0	21.32	65.45	180.8	17.82
#1	.0119	.0031	.0026	-.0013	.0009	-.0020	.0004	-.0058	.0065
#2	.0117	.0030	.0019	-.0010	-.0004	-.0030	.0021	.0043	.0072
#3	.0114	.0028	.0026	.0010	.0006	-.0029	.0024	-.0127	.0091

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**.0035**	**.2028**	**.1103**	**.0041**	**.0007**	**.0093**	**-.0005**	**.0001**
Stddev	.0005	.0115	.0173	.0047	.0003	.0002	.0003	.0001	.0001
%RSD	20.09	333.6	8.524	4.240	8.124	28.09	3.144	18.36	54.48
#1	.0024	-.0032	.1846	.1090	.0045	.0009	.0091	-.0005	.0002
#2	.0021	.0168	.2048	.1154	.0039	.0005	.0093	-.0005	.0000
#3	.0031	-.0032	.2190	.1063	.0039	.0006	.0097	-.0004	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0022**	**.0067**	**.0015**	**.0058**	**.0021**	**-.0025**	**-.0065**
Stddev	.0003	.0013	.0001	.0030	.0014	.0019	.0018
%RSD	14.10	19.23	7.384	52.66	66.21	77.52	27.77
#1	-.0018	.0052	.0016	.0065	.0005	-.0023	-.0066
#2	-.0023	.0075	.0014	.0024	.0030	-.0007	-.0046
#3	-.0024	.0074	.0015	.0083	.0028	-.0045	-.0082

Zoom In Zoom Out

Sample Name: CRCONF Acquired: 4/22/2019 12:05:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146800.**	**26449.**	**6401.3**	**10049.**
Stddev	775.	12.	35.3	43.
%RSD	.52820	.04417	.55219	.42404
#1	145990.	26441.	6436.6	10091.
#2	147540.	26462.	6365.9	10006.
#3	146880.	26444.	6401.3	10049.

Zoom In Zoom Out

Sample Name: ASCONF Acquired: 4/22/2019 12:10:17 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0001**	**.0002**	**-.0004**	**.0003**	**.0001**	**.0001**	**.0003**	**.0000**
Stddev	.0001	.0001	.0001	.0000	.0001	.0004	.0000	.0002	.0002
%RSD	184.0	155.3	80.83	9.473	30.21	307.0	34.94	59.81	429.1
#1	-.0001	-.0002	.0000	-.0004	.0004	-.0000	.0002	.0003	.0001
#2	.0001	.0000	.0003	-.0003	.0003	-.0002	.0001	.0005	-.0002
#3	-.0001	-.0000	.0002	-.0004	.0002	.0006	.0001	.0001	.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0001**	**5.476**	**-.0007**	**-.0001**	**-.0024**	**.0005**	**.0215**	**-.0536**
Stddev	.0001	.0000	.018	.0013	.0005	.0021	.0009	.0030	.0005
%RSD	31.76	24.21	.3349	180.6	342.0	87.50	179.5	14.10	.8869
#1	-.0002	-.0000	5.497	-.0017	-.0000	-.0001	.0010	.0248	-.0542
#2	-.0005	-.0000	5.466	.0008	.0003	-.0029	.0010	.0209	-.0533
#3	-.0004	-.0001	5.465	-.0012	-.0007	-.0041	-.0005	.0189	-.0534

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**-.0035**	**.1534**	**.0823**	**.0027**	**.0001**	**.0115**	**-.0005**	**-.0001**
Stddev	.0024	.0030	.0231	.0026	.0006	.0001	.0002	.0001	.0001
%RSD	166.3	85.40	15.09	3.192	23.84	46.16	2.024	25.70	170.0
#1	-.0011	-.0006	.1756	.0820	.0024	.0001	.0113	-.0004	.0000
#2	.0036	-.0034	.1294	.0851	.0022	.0001	.0115	-.0006	-.0000
#3	.0019	-.0065	.1551	.0798	.0034	.0002	.0118	-.0007	-.0002

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0004**	**.0001**	**.0001**	**.0015**	**-.0015**	**-.0048**
Stddev	.0005	.0008	.0001	.0015	.0012	.0012	.0010
%RSD	190.7	180.3	68.18	2216.	78.31	83.67	21.15
#1	.0007	-.0013	.0001	-.0012	.0002	-.0008	-.0060
#2	.0003	.0003	.0000	-.0003	.0020	-.0007	-.0041
#3	-.0002	-.0003	.0001	.0017	.0023	-.0029	-.0045

Zoom In Zoom Out

Sample Name: ASCONF Acquired: 4/22/2019 12:10:17 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**145710.**	**26506.**	**6607.3**	**10076.**
Stddev	260.	39.	8.4	14.
%RSD	.17830	.14790	.12662	.13908
#1	145640.	26538.	6598.3	10060.
#2	145490.	26518.	6614.9	10087.
#3	145990.	26462.	6608.8	10081.

Zoom In Zoom Out

Sample Name: CCV Acquired: 4/22/2019 12:15:22 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.030**	**2.017**	**2.011**	**2.048**	**2.005**	**1.995**	**2.020**	**2.056**	**.2489**
Stddev	.002	.003	.000	.001	.000	.003	.026	.001	.0004
%RSD	.1092	.1521	.0020	.0534	.0141	.1418	1.296	.0446	.1768
#1	2.031	2.020	2.011	2.050	2.005	1.997	2.001	2.056	.2494
#2	2.028	2.014	2.011	2.048	2.005	1.997	2.010	2.056	.2485
#3	2.032	2.015	2.011	2.047	2.005	1.992	2.050	2.055	.2489
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.005**	**2.034**	**2.024**	**2.098**	**2.047**	**2.020**	**2.018**	**39.76**	**40.11**
Stddev	.003	.000	.004	.006	.001	.003	.002	.03	.04
%RSD	.1334	.0037	.1748	.3004	.0518	.1627	.1025	.0772	.0935
#1	2.002	2.034	2.023	2.105	2.046	2.018	2.017	39.78	40.16
#2	2.006	2.034	2.021	2.097	2.048	2.023	2.020	39.73	40.09
#3	2.007	2.034	2.028	2.093	2.046	2.018	2.017	39.78	40.10
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.07**	**40.35**	**40.20**	**41.07**	**2.044**	**2.036**	**5.274**	**2.058**	**2.028**
Stddev	.05	.06	.08	.04	.002	.001	.005	.003	.001
%RSD	.1243	.1512	.1944	.0952	.0768	.0327	.0952	.1326	.0648
#1	40.12	40.42	40.26	41.12	2.044	2.036	5.274	2.061	2.029
#2	40.02	40.33	40.11	41.05	2.043	2.036	5.269	2.058	2.027
#3	40.07	40.30	40.22	41.05	2.046	2.035	5.279	2.056	2.028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 4/22/2019 12:15:22 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.030**	**1.999**	**2.046**	**2.010**	**2.043**	**1.972**	**2.159**
Stddev	.004	.002	.001	.003	.003	.002	.005
%RSD	.1839	.0840	.0671	.1400	.1637	.0897	.2313
#1	2.027	1.999	2.044	2.008	2.039	1.973	2.154
#2	2.029	1.998	2.046	2.009	2.046	1.970	2.159
#3	2.035	2.001	2.047	2.014	2.043	1.973	2.164
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**137940.**	**25991.**	**6293.0**	**9093.1**
Stddev	735.	46.	2.3	3.7
%RSD	.53295	.17576	.03703	.04067
#1	137820.	25966.	6295.7	9097.0
#2	138730.	26044.	6291.9	9089.6
#3	137280.	25964.	6291.4	9092.8

Zoom In Zoom Out

Sample Name: CCB Acquired: 4/22/2019 12:20:24 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0004**	**.0004**	**-.0000**	**.0005**	**.0006**	**.0004**	**.0004**	**.0002**
Stddev	.0000	.0000	.0001	.0002	.0002	.0001	.0000	.0002	.0002
%RSD	19.96	8.877	19.17	585.7	30.76	20.72	5.270	36.93	112.9
#1	.0000	.0004	.0004	-.0000	.0004	.0005	.0004	.0003	.0004
#2	.0000	.0004	.0003	-.0002	.0004	.0005	.0004	.0006	.0001
#3	.0000	.0003	.0004	.0001	.0007	.0007	.0004	.0005	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0004**	**-.0000**	**.0007**	**.0008**	**.0000**	**.0015**	**.0032**	**.0061**
Stddev	.0003	.0001	.0001	.0008	.0008	.0017	.0005	.0012	.0012
%RSD	247.0	19.89	693.3	111.9	99.76	4444.	33.44	39.02	19.37
#1	-.0005	.0005	.0001	-.0001	.0016	.0013	.0018	.0023	.0048
#2	.0001	.0003	.0000	.0008	.0009	.0008	.0018	.0046	.0068
#3	-.0000	.0004	-.0002	.0015	-.0000	-.0019	.0009	.0027	.0069
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0073**	**.0029**	**.2203**	**.1186**	**.0037**	**.0006**	**-.0006**	**.0003**	**.0003**
Stddev	.0004	.0052	.0346	.0123	.0005	.0002	.0006	.0001	.0001
%RSD	5.699	183.4	15.69	10.35	12.87	33.26	107.7	23.89	26.41
#1	.0073	.0088	.2095	.1219	.0040	.0008	.0001	.0002	.0003
#2	.0069	.0010	.2590	.1288	.0039	.0005	-.0011	.0004	.0004
#3	.0078	-.0012	.1924	.1050	.0031	.0004	-.0007	.0003	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 4/22/2019 12:20:24 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0008**	**.0005**	**.0017**	**.0021**	**-.0029**	**-.0048**
Stddev	.0001	.0008	.0002	.0014	.0022	.0027	.0013
%RSD	19.67	93.68	34.56	82.47	103.3	95.32	27.23
#1	.0006	.0014	.0005	.0032	.0046	-.0036	-.0063
#2	.0005	-.0001	.0006	.0004	.0002	-.0051	-.0040
#3	.0008	.0013	.0003	.0016	.0017	.0002	-.0041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146690.**	**26459.**	**6599.8**	**10089.**
Stddev	314.	151.	13.0	15.
%RSD	.21420	.56947	.19764	.15129
#1	146450.	26298.	6611.0	10105.
#2	146560.	26597.	6585.5	10075.
#3	147050.	26481.	6602.9	10086.

Zoom In Zoom Out

Sample Name: sampleconf Acquired: 4/22/2019 12:25:33 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0046**	**.0011**	**.0011**	**.0031**	**.0025**	**.0004**	**.0036**	**.0046**	**-.0002**
Stddev	.0003	.0001	.0002	.0002	.0004	.0002	.0000	.0003	.0002
%RSD	6.509	5.065	19.97	5.894	14.47	44.07	1.347	7.254	92.69
#1	.0050	.0010	.0010	.0030	.0029	.0003	.0036	.0043	-.0003
#2	.0045	.0011	.0014	.0033	.0023	.0003	.0037	.0049	.0000
#3	.0044	.0012	.0010	.0030	.0024	.0006	.0036	.0046	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0018**	**.0118**	**.0045**	**.0027**	**.0009**	**.0031**	**.0015**	**.1137**	**1.154**
Stddev	.0002	.0001	.0008	.0001	.0008	.0010	.0007	.0054	.002
%RSD	12.82	.9408	18.70	2.697	88.49	30.96	44.65	4.787	.1801
#1	.0021	.0120	.0037	.0028	.0009	.0043	.0018	.1136	1.157
#2	.0018	.0118	.0054	.0027	.0001	.0026	.0020	.1193	1.152
#3	.0016	.0118	.0046	.0026	.0017	.0025	.0007	.1084	1.154

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.1286**	**2.335**	**1.260**	**.0027**	**.0003**	**.0039**	**-.0005**	**.0000**
Stddev	.0014	.0072	.029	.006	.0001	.0001	.0006	.0004	.0001
%RSD	137.8	5.597	1.228	.5048	2.081	30.26	16.25	67.53	215.3
#1	.0022	.1203	2.306	1.259	.0027	.0002	.0046	-.0002	.0001
#2	-.0006	.1326	2.335	1.266	.0026	.0003	.0033	-.0009	.0001
#3	.0015	.1329	2.363	1.254	.0027	.0003	.0040	-.0005	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0011**	**.0002**	**-.0008**	**.0008**	**-.0018**	**-.0024**
Stddev	.0001	.0006	.0001	.0004	.0013	.0004	.0021
%RSD	879.2	52.81	62.20	52.01	158.3	21.38	86.23
#1	-.0001	-.0014	.0002	-.0003	-.0004	-.0014	-.0047
#2	-.0001	-.0004	.0001	-.0010	.0022	-.0019	-.0018
#3	.0001	-.0015	.0003	-.0012	.0008	-.0021	-.0007

Zoom In Zoom Out

Sample Name: sampleconf Acquired: 4/22/2019 12:25:33 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**145100.**	**26270.**	**6541.0**	**9944.1**
Stddev	317.	114.	19.3	24.3
%RSD	.21832	.43287	.29575	.24432
#1	145240.	26142.	6518.9	9916.2
#2	144740.	26361.	6554.6	9960.8
#3	145320.	26307.	6549.5	9955.1

Zoom In Zoom Out

Sample Name: mp14316-mb1conf Acquired: 4/22/2019 12:30:37 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0035**	**.0038**	**.0037**	**.0034**	**.0035**	**.0038**	**.0037**	**.0036**	**-.0002**
Stddev	.0005	.0003	.0001	.0003	.0002	.0004	.0002	.0003	.0002
%RSD	15.80	8.783	3.320	10.09	6.141	9.542	5.452	9.498	81.53
#1	.0039	.0042	.0038	.0033	.0033	.0034	.0035	.0039	-.0001
#2	.0037	.0037	.0037	.0037	.0035	.0039	.0037	.0036	-.0001
#3	.0028	.0035	.0036	.0030	.0038	.0041	.0039	.0033	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**.0052**	**.0040**	**.0049**	**.0035**	**.0015**	**.0044**	**.0456**	**.0584**
Stddev	.0001	.0003	.0003	.0007	.0006	.0015	.0013	.0104	.0046
%RSD	4.964	5.100	6.293	15.23	18.25	100.1	30.51	22.91	7.869
#1	.0026	.0054	.0043	.0051	.0033	.0020	.0058	.0576	.0631
#2	.0024	.0052	.0039	.0055	.0042	.0026	.0032	.0385	.0580
#3	.0023	.0049	.0039	.0040	.0030	-.0002	.0042	.0406	.0540

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0489**	**.0466**	**.1246**	**.0853**	**.0053**	**.0036**	**.0009**	**.0024**	**.0039**
Stddev	.0035	.0151	.0103	.0112	.0006	.0002	.0010	.0008	.0004
%RSD	7.156	32.37	8.304	13.11	11.00	5.400	110.0	33.77	10.89
#1	.0508	.0576	.1221	.0894	.0059	.0038	.0006	.0030	.0043
#2	.0510	.0294	.1360	.0726	.0052	.0037	.0001	.0027	.0039
#3	.0448	.0529	.1158	.0938	.0048	.0034	.0020	.0015	.0034

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0036**	**.0021**	**.0025**	**.0052**	**.0020**	**-.0043**	**.0058**
Stddev	.0002	.0003	.0002	.0028	.0005	.0030	.0020
%RSD	4.812	13.87	6.749	53.51	22.58	69.43	33.89
#1	.0034	.0020	.0025	.0050	.0015	-.0061	.0077
#2	.0038	.0024	.0023	.0081	.0022	-.0009	.0058
#3	.0036	.0019	.0026	.0025	.0023	-.0059	.0038

Zoom In Zoom Out

Sample Name: mp14316-mb1conf Acquired: 4/22/2019 12:30:37 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**150310.**	**27248.**	**6746.6**	**10405.**
Stddev	1391.	58.	11.8	11.
%RSD	.92523	.21455	.17487	.10458
#1	149590.	27309.	6743.1	10397.
#2	151910.	27192.	6737.0	10400.
#3	149420.	27243.	6759.8	10417.

Zoom In Zoom Out

Sample Name: mp14316-b1conf Acquired: 4/22/2019 12:35:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.066**	**2.036**	**2.092**	**2.064**	**2.027**	**2.031**	**2.075**	**2.077**	**.0871**
Stddev	.004	.004	.000	.001	.006	.005	.010	.000	.0003
%RSD	.1940	.1717	.0142	.0573	.2926	.2470	.4918	.0006	.3870
#1	2.066	2.036	2.092	2.063	2.021	2.025	2.065	2.077	.0868
#2	2.070	2.040	2.092	2.065	2.027	2.033	2.075	2.077	.0870
#3	2.062	2.033	2.093	2.064	2.032	2.034	2.085	2.077	.0874

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.015**	**2.079**	**2.104**	**2.184**	**2.092**	**2.124**	**2.145**	**25.70**	**25.94**
Stddev	.004	.003	.004	.014	.003	.002	.003	.05	.04
%RSD	.2091	.1243	.1750	.6350	.1630	.0738	.1361	.1789	.1548
#1	2.010	2.082	2.101	2.168	2.092	2.123	2.148	25.69	25.92
#2	2.016	2.077	2.108	2.188	2.095	2.126	2.144	25.75	25.98
#3	2.018	2.078	2.104	2.194	2.088	2.124	2.143	25.66	25.91

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.86**	**26.08**	**25.84**	**26.62**	**2.114**	**2.097**	**.0056**	**2.147**	**2.055**
Stddev	.03	.03	.03	.03	.002	.003	.0006	.005	.004
%RSD	.1210	.1118	.1163	.1277	.0791	.1481	11.52	.2255	.1824
#1	25.85	26.08	25.83	26.61	2.115	2.094	.0055	2.142	2.052
#2	25.90	26.11	25.82	26.66	2.115	2.098	.0062	2.147	2.059
#3	25.84	26.05	25.88	26.60	2.112	2.100	.0050	2.152	2.053

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.078**	**1.960**	**2.096**	**.0237**	**.1259**	**-.0027**	**2.060**
Stddev	.003	.010	.004	.0013	.0015	.0011	.009
%RSD	.1464	.5312	.2047	5.644	1.157	40.15	.4217
#1	2.075	1.948	2.092	.0248	.1243	-.0031	2.050
#2	2.078	1.963	2.097	.0240	.1271	-.0036	2.065
#3	2.081	1.968	2.100	.0222	.1263	-.0015	2.065

Zoom In Zoom Out

Sample Name: mp14316-b1conf Acquired: 4/22/2019 12:35:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**141880.**	**26440.**	**6444.6**	**9429.6**
Stddev	456.	172.	18.3	19.0
%RSD	.32135	.64920	.28421	.20107
#1	142370.	26576.	6425.2	9408.5
#2	141790.	26497.	6461.5	9445.2
#3	141470.	26247.	6447.0	9435.2

Zoom In Zoom Out

Sample Name: mp14316-s1conf Acquired: 4/22/2019 12:40:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.379**	**1.926**	**2.003**	**2.021**	**1.916**	**1.858**	**2.231**	**2.051**	**.0830**
Stddev	.004	.004	.014	.011	.003	.006	.004	.011	.0012
%RSD	.1545	.2175	.6738	.5307	.1677	.3014	.1910	.5334	1.504
#1	2.375	1.921	1.993	2.010	1.916	1.855	2.226	2.042	.0830
#2	2.383	1.928	1.998	2.021	1.920	1.865	2.234	2.047	.0842
#3	2.379	1.929	2.019	2.032	1.913	1.855	2.232	2.063	.0817

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.925**	**2.021**	**2.041**	**2.037**	**2.020**	**1.998**	**2.033**	**24.97**	**945.5**
Stddev	.007	.013	.025	.026	.017	.023	.016	.06	15.7
%RSD	.3519	.6350	1.210	1.277	.8479	1.161	.7840	.2339	1.662
#1	1.918	2.010	2.015	2.015	2.002	1.977	2.017	24.91	939.1
#2	1.932	2.017	2.044	2.030	2.024	1.996	2.034	25.03	934.1
#3	1.924	2.035	2.064	2.066	2.035	2.023	2.049	24.98	963.5

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.12**	**29.46**	**55.73**	**547.4**	**2.039**	**2.033**	**2.364**	**2.036**	**7.999**
Stddev	.04	.12	.46	7.5	.016	.013	.015	.014	.011
%RSD	.1421	.4102	.8238	1.371	.7811	.6374	.6398	.6765	.1413
#1	26.09	29.43	55.31	556.1	2.022	2.022	2.349	2.026	7.986
#2	26.11	29.36	55.64	543.3	2.040	2.030	2.364	2.030	8.006
#3	26.16	29.59	56.22	542.9	2.054	2.048	2.379	2.052	8.006

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.964**	**1.952**	**1.976**	**10.47**	**.1274**	**.1140**	**2.116**
Stddev	.005	.011	.004	.09	.0068	.0054	.036
%RSD	.2784	.5670	.2150	.8579	5.356	4.700	1.725
#1	1.958	1.946	1.972	10.41	.1309	.1159	2.079
#2	1.968	1.945	1.980	10.42	.1318	.1181	2.116
#3	1.966	1.965	1.975	10.57	.1196	.1079	2.152

Zoom In Zoom Out

Sample Name: mp14316-s1conf Acquired: 4/22/2019 12:40:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**135790.**	**25805.**	**6143.0**	**8751.2**
Stddev	760.	190.	1.9	4.6
%RSD	.55988	.73715	.03172	.05217
#1	135460.	25828.	6144.7	8756.1
#2	135250.	25982.	6140.8	8747.1
#3	136660.	25604.	6143.4	8750.5

Zoom In Zoom Out

Sample Name: mp14316-s2conf Acquired: 4/22/2019 12:45:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.274**	**1.837**	**2.030**	**2.050**	**1.891**	**1.818**	**2.205**	**2.071**	**.0826**
Stddev	.033	.025	.023	.025	.027	.024	.025	.026	.0002
%RSD	1.442	1.335	1.116	1.203	1.405	1.294	1.146	1.247	.2410
#1	2.242	1.815	2.007	2.025	1.864	1.791	2.179	2.044	.0826
#2	2.270	1.833	2.032	2.051	1.893	1.828	2.207	2.074	.0825
#3	2.308	1.864	2.052	2.075	1.917	1.834	2.229	2.095	.0829

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.899**	**2.053**	**2.068**	**2.061**	**2.043**	**2.031**	**2.065**	**23.73**	**889.8**
Stddev	.024	.029	.037	.031	.033	.022	.028	.39	11.3
%RSD	1.247	1.397	1.801	1.517	1.597	1.081	1.355	1.647	1.268
#1	1.875	2.024	2.031	2.032	2.015	2.007	2.040	23.37	890.7
#2	1.901	2.054	2.069	2.057	2.036	2.036	2.060	23.67	878.1
#3	1.922	2.081	2.105	2.094	2.079	2.050	2.095	24.14	900.6

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.80**	**27.98**	**53.69**	**522.5**	**2.065**	**2.066**	**2.389**	**2.071**	**7.629**
Stddev	.33	.39	.68	10.2	.028	.028	.046	.033	.102
%RSD	1.330	1.398	1.266	1.955	1.367	1.370	1.930	1.587	1.333
#1	24.47	27.69	53.03	511.4	2.036	2.036	2.341	2.036	7.531
#2	24.79	27.83	53.67	524.6	2.066	2.069	2.392	2.076	7.622
#3	25.13	28.43	54.38	531.5	2.092	2.093	2.433	2.101	7.734

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.941**	**1.939**	**1.955**	**10.58**	**.1199**	**.1005**	**2.133**
Stddev	.024	.020	.024	.19	.0049	.0061	.030
%RSD	1.248	1.044	1.250	1.781	4.092	6.038	1.386
#1	1.916	1.919	1.929	10.41	.1221	.0970	2.109
#2	1.945	1.940	1.961	10.55	.1143	.0971	2.123
#3	1.964	1.959	1.977	10.78	.1234	.1075	2.166

Zoom In Zoom Out

Sample Name: mp14316-s2conf Acquired: 4/22/2019 12:45:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**136320.**	**25922.**	**6134.7**	**8759.1**
Stddev	92.	118.	20.4	21.9
%RSD	.06713	.45697	.33218	.24978
#1	136390.	26035.	6147.1	8766.4
#2	136360.	25932.	6145.7	8776.4
#3	136220.	25799.	6111.1	8734.5

Zoom In Zoom Out

Sample Name: jc86267-1conf Acquired: 4/22/2019 12:50:48 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4231**	**-.0000**	**-.0008**	**-.0009**	**.0090**	**.0140**	**.2599**	**.0129**	**.0003**
Stddev	.0018	.0002	.0006	.0011	.0014	.0006	.0010	.0026	.0023
%RSD	.4301	1876.	80.53	121.5	15.30	4.206	.3855	20.19	802.9
#1	.4210	-.0002	-.0001	-.0005	.0076	.0145	.2587	.0133	-.0023
#2	.4238	-.0000	-.0010	-.0001	.0103	.0134	.2606	.0102	.0021
#3	.4244	.0002	-.0014	-.0021	.0091	.0142	.2602	.0154	.0011

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**.0199**	**-.0019**	**.0034**	**.0080**	**-.0045**	**.0013**	**.6094**	**861.9**
Stddev	.0027	.0009	.0028	.0009	.0009	.0064	.0052	.0344	9.2
%RSD	302.5	4.489	150.7	25.46	11.72	143.0	401.7	5.637	1.062
#1	.0037	.0192	-.0031	.0043	.0071	-.0115	.0029	.5798	851.3
#2	-.0017	.0195	.0014	.0026	.0090	-.0027	-.0045	.6014	867.6
#3	.0006	.0209	-.0039	.0034	.0078	.0009	.0055	.6471	866.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.551**	**5.011**	**29.61**	**500.4**	**.0302**	**.0090**	**2.116**	**-.0040**	**5.773**
Stddev	.011	.043	.27	3.4	.0021	.0014	.036	.0033	.044
%RSD	.7212	.8485	.9008	.6739	7.034	15.35	1.703	82.56	.7595
#1	1.541	4.966	29.30	496.9	.0319	.0080	2.080	-.0076	5.725
#2	1.550	5.014	29.70	500.7	.0308	.0084	2.117	-.0010	5.785
#3	1.563	5.051	29.81	503.7	.0278	.0106	2.152	-.0035	5.810

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0027**	**.0243**	**.0020**	**10.17**	**.0088**	**.1182**	**.0523**
Stddev	.0008	.0035	.0003	.24	.0025	.0064	.0122
%RSD	27.95	14.26	16.38	2.399	27.98	5.423	23.39
#1	.0035	.0264	.0024	9.927	.0096	.1221	.0591
#2	.0026	.0203	.0020	10.17	.0060	.1108	.0381
#3	.0020	.0261	.0017	10.41	.0108	.1218	.0595

Zoom In Zoom Out

Sample Name: jc86267-1conf Acquired: 4/22/2019 12:50:48 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**136930.**	**25878.**	**6127.4**	**8773.3**
Stddev	294.	23.	53.1	82.8
%RSD	.21503	.08823	.86627	.94427
#1	136680.	25854.	6159.4	8827.5
#2	136860.	25899.	6156.7	8814.3
#3	137250.	25883.	6066.1	8677.9

Zoom In Zoom Out

Sample Name: mp14316-sd1conf Acquired: 4/22/2019 12:56:00 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4649**	**-.0011**	**-.0040**	**-.0052**	**.0130**	**.0221**	**.2864**	**.0167**	**.0039**
Stddev	.0031	.0016	.0067	.0036	.0055	.0109	.0004	.0055	.0187
%RSD	.6700	144.6	166.4	68.39	41.92	48.99	.1417	32.86	477.6
#1	.4658	-.0014	.0035	-.0086	.0142	.0338	.2865	.0108	-.0088
#2	.4615	.0006	-.0092	-.0056	.0071	.0202	.2867	.0217	.0254
#3	.4675	-.0026	-.0063	-.0015	.0178	.0124	.2859	.0177	-.0049

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0070**	**.0288**	**.0041**	**.0084**	**.0198**	**-.0902**	**-.0110**	**.5063**	**978.4**
Stddev	.0104	.0024	.0226	.0175	.0192	.0486	.0346	.1815	1.5
%RSD	147.5	8.187	555.6	208.6	96.96	53.93	313.5	35.85	.1554
#1	-.0049	.0315	.0062	.0083	.0110	-.1277	-.0188	.6661	976.6
#2	-.0183	.0271	.0256	-.0091	.0418	-.1077	.0268	.5440	979.4
#3	.0021	.0278	-.0195	.0260	.0066	-.0352	-.0411	.3090	979.1

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.715**	**5.648**	**35.81**	**568.1**	**.0717**	**.0130**	**2.215**	**-.0089**	**6.349**
Stddev	.052	.249	1.25	.8	.0120	.0075	.021	.0076	.009
%RSD	3.051	4.401	3.506	.1343	16.70	57.64	.9490	84.87	.1347
#1	1.667	5.544	34.36	567.4	.0848	.0046	2.191	-.0060	6.348
#2	1.771	5.468	36.47	568.9	.0689	.0152	2.228	-.0033	6.358
#3	1.708	5.931	36.59	568.2	.0613	.0191	2.225	-.0175	6.341

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0013**	**.0843**	**.0103**	**10.37**	**.0594**	**.0653**	**.1330**
Stddev	.0063	.0121	.0016	.02	.0097	.0213	.0398
%RSD	500.4	14.40	15.48	.1479	16.38	32.60	29.95
#1	.0037	.0739	.0112	10.39	.0670	.0660	.0873
#2	-.0084	.0814	.0084	10.36	.0484	.0436	.1599
#3	.0009	.0976	.0112	10.38	.0628	.0862	.1519

Zoom In Zoom Out

Sample Name: mp14316-sd1conf Acquired: 4/22/2019 12:56:00 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142670.**	**26105.**	**6399.5**	**9437.3**
Stddev	68.	122.	14.2	15.2
%RSD	.04798	.46819	.22149	.16129
#1	142590.	26094.	6396.8	9425.9
#2	142710.	26232.	6386.8	9431.5
#3	142710.	25989.	6414.8	9454.6

Zoom In Zoom Out

Sample Name: mp14275-mb1conf Acquired: 4/22/2019 13:01:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0000**	**-.0002**	**-.0000**	**.0015**	**.0018**	**.0006**	**.0005**	**-.0002**
Stddev	.0004	.0000	.0001	.0001	.0002	.0002	.0000	.0002	.0003
%RSD	190.2	21660.	28.38	520.7	13.04	8.282	6.074	46.44	110.7
#1	.0006	-.0001	-.0003	-.0000	.0015	.0019	.0006	.0005	-.0005
#2	.0001	.0000	-.0002	.0001	.0014	.0017	.0005	.0007	-.0002
#3	-.0001	.0000	-.0001	-.0001	.0018	.0020	.0006	.0002	-.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0103**	**-.0008**	**-.0003**	**.0012**	**-.0010**	**.0008**	**.0168**	**.0779**
Stddev	.0003	.0001	.0013	.0003	.0005	.0023	.0012	.0070	.0026
%RSD	91.77	1.066	153.7	102.3	42.85	219.3	150.6	41.51	3.299
#1	-.0001	.0103	.0005	-.0005	.0014	-.0028	-.0006	.0159	.0805
#2	-.0001	.0104	-.0021	-.0002	.0006	.0015	.0017	.0241	.0778
#3	-.0006	.0102	-.0009	-.0000	.0016	-.0018	.0014	.0103	.0754

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0369**	**.0083**	**.1876**	**.1844**	**.0020**	**.0004**	**.0243**	**.0200**	**.0007**
Stddev	.0001	.0081	.0194	.0092	.0003	.0001	.0006	.0002	.0001
%RSD	.3384	97.59	10.34	4.962	15.35	19.39	2.388	.9887	11.53
#1	.0368	.0055	.1704	.1852	.0017	.0003	.0237	.0197	.0008
#2	.0370	.0020	.2086	.1931	.0022	.0005	.0249	.0200	.0007
#3	.0370	.0175	.1839	.1749	.0022	.0004	.0243	.0201	.0006

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**.0010**	**.0002**	**.0062**	**.0013**	**-.0023**	**.0269**
Stddev	.0003	.0008	.0002	.0018	.0013	.0005	.0009
%RSD	21.02	76.62	81.52	28.83	94.87	24.02	3.317
#1	.0018	.0012	.0001	.0077	.0028	-.0021	.0261
#2	.0017	.0016	.0001	.0042	.0003	-.0029	.0267
#3	.0012	.0002	.0004	.0065	.0009	-.0019	.0278

Zoom In Zoom Out

Sample Name: mp14275-mb1conf Acquired: 4/22/2019 13:01:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**148520.**	**27002.**	**6670.8**	**10186.**
Stddev	186.	58.	11.9	19.
%RSD	.12535	.21390	.17826	.19130
#1	148310.	27012.	6682.3	10201.
#2	148660.	26940.	6671.5	10193.
#3	148580.	27054.	6658.5	10164.

Zoom In Zoom Out

Sample Name: mp14275-b1conf Acquired: 4/22/2019 13:06:13 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.998**	**1.991**	**1.978**	**2.005**	**1.964**	**1.961**	**2.018**	**2.013**	**.2631**
Stddev	.006	.006	.003	.001	.002	.001	.003	.001	.0007
%RSD	.3076	.3172	.1283	.0588	.0905	.0486	.1644	.0582	.2754
#1	1.997	1.991	1.979	2.006	1.962	1.961	2.014	2.012	.2636
#2	1.992	1.985	1.975	2.004	1.965	1.961	2.021	2.013	.2633
#3	2.004	1.997	1.980	2.005	1.965	1.963	2.019	2.015	.2622

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.946**	**2.004**	**2.019**	**2.110**	**2.017**	**1.972**	**2.035**	**24.81**	**25.12**
Stddev	.004	.001	.001	.009	.001	.005	.004	.08	.09
%RSD	.1883	.0679	.0540	.4094	.0494	.2654	.1709	.3359	.3428
#1	1.943	2.002	2.018	2.119	2.015	1.975	2.035	24.80	25.14
#2	1.950	2.004	2.019	2.108	2.017	1.966	2.032	24.74	25.03
#3	1.945	2.005	2.020	2.102	2.017	1.974	2.039	24.90	25.20

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.03**	**25.15**	**25.11**	**25.94**	**1.955**	**2.026**	**-.0256**	**2.096**	**1.994**
Stddev	.08	.12	.12	.05	.002	.001	.0009	.003	.003
%RSD	.3015	.4596	.4952	.1969	.1084	.0592	3.490	.1253	.1615
#1	25.03	25.23	25.13	25.93	1.954	2.025	-.0258	2.099	1.992
#2	24.96	25.02	24.98	25.89	1.954	2.025	-.0264	2.096	1.992
#3	25.11	25.21	25.23	25.99	1.958	2.027	-.0246	2.094	1.998

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.031**	**1.252**	**2.040**	**.0269**	**.1104**	**-.0042**	**1.968**
Stddev	.004	.007	.004	.0024	.0004	.0017	.009
%RSD	.1875	.5537	.2109	8.794	.3747	39.86	.4388
#1	2.028	1.248	2.036	.0274	.1099	-.0034	1.977
#2	2.035	1.249	2.044	.0243	.1107	-.0032	1.967
#3	2.031	1.260	2.042	.0289	.1106	-.0062	1.959

Zoom In Zoom Out

Sample Name: mp14275-b1conf Acquired: 4/22/2019 13:06:13 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**140910.**	**26406.**	**6399.3**	**9330.2**
Stddev	222.	277.	2.9	11.0
%RSD	.15750	1.0498	.04494	.11804
#1	140720.	26130.	6400.9	9331.9
#2	140860.	26684.	6396.0	9318.4
#3	141150.	26405.	6401.0	9340.2

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/22/2019 13:11:15 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0018**	F **-.0003**	F **-.0003**	F **-.0001**	F **.0001**	F **-.0034**	F **-.0000**	F **.0002**
Stddev	.0002	.0000	.0001	.0001	.0001	.0003	.0000	.0000
%RSD	10.11	12.22	35.69	152.2	54.81	8.167	148.8	1.625
#1	-.0016	-.0003	-.0003	-.0002	.0002	-.0034	-.0000	.0002
#2	-.0020	-.0003	-.0002	.0000	.0001	-.0031	.0000	.0002
#3	-.0018	-.0003	-.0004	-.0001	.0001	-.0037	-.0000	.0002
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0001**	F **-.0011**	F **.0002**	F **.0015**	F **.0014**	F **.0000**	F **-.0014**	F **-.0016**
Stddev	.0002	.0001	.0000	.0010	.0004	.0003	.0005	.0002
%RSD	253.4	11.89	19.92	63.89	26.39	669.9	34.57	12.30
#1	-.0002	-.0011	.0001	.0026	.0010	.0001	-.0016	-.0016
#2	.0001	-.0009	.0002	.0008	.0017	-.0003	-.0008	-.0014
#3	-.0002	-.0012	.0002	.0011	.0014	.0002	-.0017	-.0018
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.2500	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.0026**	F **-.0060**	F **-.0012**	F **-.0069**	F **.0274**	F **.0773**	F **.0021**	F **.0003**
Stddev	.0005	.0011	.0006	.0065	.0238	.0128	.0002	.0001
%RSD	19.09	19.08	49.43	94.21	86.98	16.55	11.40	40.35
#1	.0031	-.0047	-.0016	-.0127	.0175	.0634	.0018	.0003
#2	.0021	-.0066	-.0016	.0001	.0101	.0800	.0023	.0004
#3	.0027	-.0066	-.0005	-.0081	.0545	.0885	.0022	.0002
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	40.00	40.00	40.00	40.00	40.00	40.00	2.000	2.000
Range	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/22/2019 13:11:15 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0046**	F **-.0012**	F **.0001**	F **-.0000**	F **.0018**	F **.0003**	F **-.0040**	F **.0016**
Stddev	.0063	.0000	.0000	.0001	.0006	.0001	.0011	.0007
%RSD	136.6	2.947	43.66	150.1	32.72	23.45	26.25	45.74
#1	-.0083	-.0012	.0000	-.0001	.0018	.0002	-.0050	.0022
#2	.0027	-.0011	.0001	-.0001	.0023	.0004	-.0029	.0008
#3	-.0083	-.0012	.0001	.0000	.0012	.0003	-.0042	.0018
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	5.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	F **.0064**	F **.0050**
Stddev	.0019	.0017
%RSD	29.78	33.70
#1	.0082	.0069
#2	.0065	.0040
#3	.0044	.0040
Check ?	Chk Fail	Chk Fail
Value	2.000	2.000
Range	-10.00%	-10.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**279990.**	**43378.**	**13787.**	**20250.**
Stddev	3866.	143.	44.	65.
%RSD	1.3806	.33030	.31689	.32134
#1	275640.	43342.	13760.	20213.
#2	283010.	43257.	13763.	20212.
#3	281330.	43536.	13837.	20325.

Zoom In Zoom Out

Sample Name: ccbconf Acquired: 4/22/2019 13:16:29 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0003**	**.0002**	**.0001**	**.0001**	**.0003**	**.0003**	**.0004**
Stddev	.0004	.0001	.0000	.0001	.0003	.0003	.0000	.0005
%RSD	88.13	30.95	18.87	181.4	208.4	96.63	13.01	114.7
#1	.0007	.0003	.0003	-.0001	-.0002	.0006	.0003	-.0001
#2	-.0000	.0004	.0002	.0001	.0004	-.0000	.0002	.0004
#3	.0007	.0002	.0003	.0001	.0002	.0004	.0003	.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0003**	**-.0003**	**.0009**	**.0005**	**-.0012**	**.0010**
Stddev	.0004	.0003	.0000	.0001	.0010	.0006	.0016	.0014
%RSD	601.6	253.1	6.205	22.53	108.9	110.6	135.8	140.3
#1	.0003	.0003	.0003	-.0003	-.0002	.0010	.0000	-.0003
#2	-.0004	.0003	.0003	-.0002	.0013	.0007	-.0006	.0008
#3	-.0001	-.0002	.0003	-.0002	.0016	-.0001	-.0029	.0025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0061**	**.0015**	**.0065**	**.0093**	**.1890**	**.1011**	**.0027**	**.0005**
Stddev	.0069	.0001	.0016	.0092	.0165	.0102	.0002	.0003
%RSD	114.4	9.951	24.58	98.69	8.750	10.06	6.234	66.47
#1	.0013	.0016	.0068	.0198	.2079	.1097	.0028	.0008
#2	-.0126	.0014	.0079	.0051	.1772	.1039	.0026	.0005
#3	-.0069	.0014	.0048	.0029	.1820	.0899	.0026	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Zoom In Zoom Out

Sample Name: ccbconf Acquired: 4/22/2019 13:16:29 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0004**	**.0003**	**.0005**	F **.0095**	**.0006**	**-.0011**	**.0015**
Stddev	.0005	.0008	.0000	.0001	.0005	.0002	.0002	.0013
%RSD	218.3	181.9	5.441	20.72	5.334	35.08	20.23	88.16
#1	.0003	.0006	.0003	.0004	.0100	.0007	-.0013	.0014
#2	-.0004	-.0004	.0003	.0006	.0090	.0006	-.0009	.0002
#3	-.0006	.0011	.0003	.0006	.0095	.0004	-.0012	.0029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit					.0050			
Low Limit					-.0050			

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	F **-.0049**	**.0062**
Stddev	.0030	.0019
%RSD	60.89	30.19
#1	-.0077	.0081
#2	-.0054	.0060
#3	-.0017	.0044
Check ?	Chk Fail	Chk Pass
High Limit	.0040	
Low Limit	-.0040	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144510.**	**26094.**	**6503.9**	**9946.8**
Stddev	300.	75.	4.8	.9
%RSD	.20757	.28876	.07333	.00952
#1	144710.	26114.	6506.1	9946.0
#2	144160.	26157.	6507.2	9947.8
#3	144650.	26010.	6498.5	9946.5

Zoom In Zoom Out

Sample Name: cridconf Acquired: 4/22/2019 13:21:38 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0044**	**.0011**	**.0011**	**.0028**	**.0023**	F **.0003**	**.0034**	**.0043**
Stddev	.0003	.0000	.0001	.0002	.0002	.0003	.0000	.0001
%RSD	7.349	3.535	11.67	6.420	6.776	111.6	.5817	2.889
#1	.0040	.0010	.0011	.0030	.0024	.0007	.0034	.0044
#2	.0045	.0011	.0013	.0027	.0021	.0001	.0034	.0044
#3	.0046	.0011	.0010	.0028	.0024	.0001	.0034	.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value						.0020		
Range						-20.00%		

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0002**	**.0018**	**.0114**	**.0030**	F **.0028**	F **-.0003**	F **.0025**	F **.0001**
Stddev	.0003	.0003	.0000	.0003	.0009	.0006	.0008	.0002
%RSD	138.9	17.70	.0323	8.763	32.82	171.2	32.22	175.5
#1	-.0003	.0017	.0114	.0030	.0017	-.0008	.0016	.0003
#2	.0001	.0022	.0114	.0027	.0032	.0003	.0029	-.0001
#3	-.0006	.0015	.0114	.0032	.0034	-.0006	.0031	.0001
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.0020				.0020	.0025	.0050	.0030
Range	-20.00%				20.00%	-20.00%	-20.00%	-20.00%

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1143**	**1.130**	**.0004**	F **.1209**	F **2.405**	F **1.276**	**.0018**	**.0004**
Stddev	.0133	.005	.0024	.0059	.035	.010	.0004	.0001
%RSD	11.63	.4613	545.0	4.846	1.453	.7835	23.57	15.84
#1	.1187	1.125	.0027	.1160	2.385	1.265	.0014	.0004
#2	.0994	1.129	-.0021	.1194	2.445	1.284	.0022	.0004
#3	.1249	1.135	.0007	.1274	2.384	1.280	.0019	.0003
Check ?	Chk Pass	Chk Pass	None	Chk Fail	Chk Fail	Chk Fail	None	None
Value				.1000	2.000	1.000		
Range				20.00%	20.00%	20.00%		

Zoom In Zoom Out

Sample Name: cridconf Acquired: 4/22/2019 13:21:38 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0029**	**-.0003**	**-.0001**	**-.0001**	**.0062**	**-.0000**	**.0028**	**.0000**
Stddev	.0005	.0006	.0001	.0002	.0019	.0000	.0009	.0008
%RSD	16.99	175.5	79.98	208.3	30.93	175.5	33.40	2007.
#1	.0027	-.0009	-.0000	-.0002	.0048	.0000	.0038	-.0001
#2	.0034	-.0002	-.0001	.0001	.0083	-.0000	.0026	-.0007
#3	.0025	.0002	-.0000	-.0001	.0054	-.0000	.0020	.0009
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0055**	**.0158**
Stddev	.0005	.0012
%RSD	8.863	7.439
#1	-.0050	.0154
#2	-.0054	.0171
#3	-.0060	.0148
Check ?	None	None
Value		
Range		

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143750.**	**26046.**	**6492.2**	**9872.6**
Stddev	300.	156.	15.9	16.5
%RSD	.20873	.59998	.24423	.16730
#1	143600.	26180.	6487.5	9860.8
#2	143550.	26083.	6479.3	9865.4
#3	144090.	25874.	6509.9	9891.4

Zoom In Zoom Out

Sample Name: mp14275-s1conf Acquired: 4/22/2019 13:26:44 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.594**	**1.916**	**1.918**	**1.995**	**2.212**	**2.560**	**3.752**	**2.101**	**.2602**
Stddev	.007	.005	.001	.002	.003	.005	.024	.003	.0009
%RSD	.2643	.2436	.0678	.0998	.1267	.2067	.6342	.1232	.3398
#1	2.586	1.911	1.920	1.998	2.210	2.559	3.728	2.103	.2605
#2	2.599	1.919	1.918	1.994	2.215	2.565	3.775	2.098	.2609
#3	2.597	1.919	1.917	1.995	2.209	2.555	3.754	2.102	.2592

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.035**	**3.743**	**1.971**	**2.027**	**2.906**	**1.884**	**1.412**	**84.97**	**52.03**
Stddev	.000	.004	.004	.006	.002	.004	.003	.21	.13
%RSD	.0162	.0940	.2299	.3085	.0737	.1997	.1793	.2439	.2515
#1	2.035	3.748	1.966	2.025	2.905	1.887	1.415	84.74	51.88
#2	2.036	3.742	1.972	2.022	2.904	1.880	1.410	85.15	52.13
#3	2.035	3.741	1.975	2.034	2.908	1.885	1.411	85.00	52.09

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**135.3**	**48.70**	**34.94**	**46.76**	**1.886**	**1.903**	**2.051**	**2.141**	**2.098**
Stddev	.5	.07	.06	.03	.001	.003	.006	.001	.003
%RSD	.3550	.1384	.1656	.0734	.0768	.1448	.2993	.0484	.1529
#1	135.9	48.68	34.88	46.75	1.885	1.906	2.057	2.140	2.096
#2	135.2	48.77	34.99	46.80	1.888	1.901	2.050	2.140	2.102
#3	134.9	48.64	34.94	46.73	1.885	1.903	2.045	2.142	2.097

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.490**	**.8553**	**1.998**	**29.76**	**.2134**	**.0559**	F **9.552**
Stddev	.004	.0019	.001	.10	.0023	.0006	.041
%RSD	.0846	.2220	.0239	.3504	1.069	1.124	.4286
#1	4.489	.8569	1.998	29.74	.2154	.0556	9.598
#2	4.487	.8532	1.999	29.67	.2109	.0566	9.520
#3	4.494	.8557	1.999	29.87	.2138	.0555	9.538

Zoom In Zoom Out

Sample Name: mp14275-s1conf Acquired: 4/22/2019 13:26:44 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**141890.**	**27135.**	**6484.2**	**9111.0**
Stddev	466.	129.	7.5	17.6
%RSD	.32823	.47407	.11493	.19283
#1	142240.	27218.	6476.5	9098.3
#2	142080.	26987.	6491.4	9131.1
#3	141360.	27200.	6484.6	9103.7

Zoom In Zoom Out

Sample Name: mp14275-s2conf Acquired: 4/22/2019 13:31:51 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.646**	**1.891**	**1.890**	**1.978**	**2.216**	**2.493**	**3.811**	**2.083**	**.2618**
Stddev	.006	.004	.001	.001	.003	.003	.036	.001	.0009
%RSD	.2351	.2332	.0665	.0459	.1549	.1159	.9413	.0649	.3340
#1	2.651	1.895	1.889	1.976	2.217	2.494	3.847	2.082	.2621
#2	2.648	1.891	1.889	1.978	2.212	2.490	3.776	2.082	.2609
#3	2.639	1.886	1.891	1.978	2.219	2.496	3.808	2.084	.2626

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.020**	**3.843**	**1.949**	**1.997**	**3.049**	**1.857**	**1.397**	**87.20**	**52.52**
Stddev	.002	.002	.003	.005	.004	.006	.001	.06	.12
%RSD	.1184	.0411	.1327	.2768	.1340	.3074	.0684	.0649	.2327
#1	2.018	3.843	1.946	1.992	3.045	1.850	1.396	87.26	52.64
#2	2.019	3.842	1.950	1.995	3.050	1.860	1.398	87.19	52.53
#3	2.023	3.845	1.950	2.003	3.053	1.861	1.397	87.15	52.39

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**141.3**	**49.04**	**34.95**	**47.32**	**1.865**	**1.886**	**2.473**	**2.106**	**2.084**
Stddev	3.1	.05	.06	.05	.003	.001	.003	.001	.002
%RSD	2.164	.0943	.1678	.0970	.1358	.0465	.1319	.0300	.0837
#1	142.7	49.09	34.88	47.27	1.863	1.886	2.470	2.106	2.086
#2	137.8	49.01	34.99	47.33	1.864	1.885	2.476	2.106	2.085
#3	143.5	49.01	34.97	47.36	1.868	1.886	2.474	2.105	2.082

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.632**	**.9310**	**1.989**	**31.74**	**.2207**	**.0588**	F **10.24**
Stddev	.002	.0043	.001	.06	.0007	.0025	.05
%RSD	.0501	.4632	.0688	.1786	.3359	4.334	.4896
#1	4.629	.9341	1.990	31.67	.2215	.0617	10.26
#2	4.633	.9261	1.988	31.74	.2203	.0577	10.19
#3	4.634	.9329	1.990	31.79	.2202	.0569	10.28

Zoom In Zoom Out

Sample Name: mp14275-s2conf Acquired: 4/22/2019 13:31:51 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142670.**	**27418.**	**6551.0**	**9172.2**
Stddev	327.	54.	11.3	16.6
%RSD	.22936	.19620	.17312	.18139
#1	142970.	27476.	6548.2	9169.2
#2	142710.	27410.	6563.4	9190.1
#3	142320.	27369.	6541.2	9157.2

Zoom In Zoom Out

Sample Name: jc86246-10conf Acquired: 4/22/2019 13:36:58 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6133**	**.0024**	**.0183**	**.0410**	**.3164**	**.5391**	**1.782**	**.1372**	**.0161**
Stddev	.0226	.0001	.0001	.0004	.0084	.0153	.044	.0008	.0013
%RSD	3.677	2.675	.4779	.9115	2.666	2.843	2.464	.6154	7.915
#1	.5986	.0024	.0184	.0414	.3067	.5217	1.740	.1381	.0160
#2	.6022	.0024	.0183	.0408	.3203	.5451	1.777	.1366	.0149
#3	.6393	.0025	.0183	.0407	.3222	.5505	1.828	.1368	.0174

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1437**	**1.934**	**.0310**	**-.0004**	**1.124**	**.0021**	**.0078**	**44.74**	**24.27**
Stddev	.0041	.008	.0013	.0015	.005	.0007	.0016	1.58	.83
%RSD	2.852	.4073	4.288	351.0	.4545	33.65	21.02	3.528	3.419
#1	.1390	1.943	.0315	-.0011	1.130	.0014	.0094	43.73	23.75
#2	.1457	1.927	.0295	.0013	1.120	.0021	.0078	43.93	23.84
#3	.1464	1.932	.0320	-.0014	1.123	.0028	.0061	46.56	25.23

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**113.1**	**22.29**	**6.636**	**22.03**	**.0754**	**.0093**	**1.710**	**.2579**	**.1688**
Stddev	3.9	.71	.216	.77	.0006	.0002	.006	.0003	.0059
%RSD	3.490	3.182	3.248	3.504	.8051	2.420	.3670	.1264	3.479
#1	110.5	21.81	6.480	21.49	.0748	.0091	1.717	.2582	.1650
#2	111.1	21.95	6.546	21.68	.0754	.0092	1.706	.2580	.1659
#3	117.6	23.10	6.882	22.91	.0760	.0096	1.706	.2576	.1756

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.228**	**.0054**	**.0461**	**30.93**	**.0957**	**.0490**	F **8.108**
Stddev	.060	.0012	.0011	.17	.0046	.0025	.022
%RSD	2.692	22.92	2.407	.5590	4.856	5.100	.2765
#1	2.159	.0062	.0449	31.12	.0911	.0469	8.131
#2	2.254	.0061	.0463	30.77	.0957	.0483	8.086
#3	2.270	.0040	.0471	30.91	.1004	.0517	8.107

Zoom In Zoom Out

Sample Name: jc86246-10conf Acquired: 4/22/2019 13:36:58 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**148500.**	**27266.**	**6691.2**	**9497.9**
Stddev	3670.	661.	21.6	32.8
%RSD	2.4714	2.4226	.32331	.34499
#1	152720.	27697.	6668.6	9462.9
#2	146810.	27594.	6711.8	9527.8
#3	145980.	26505.	6693.3	9503.1

Zoom In Zoom Out

Sample Name: mp14275-sd1conf Acquired: 4/22/2019 13:42:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6096**	**.0023**	**.0183**	**.0408**	**.3329**	**.5510**	**1.893**	**.1364**	**.0143**
Stddev	.0043	.0001	.0004	.0007	.0075	.0128	.037	.0011	.0005
%RSD	.6998	6.032	2.362	1.789	2.244	2.320	1.950	.8177	3.745
#1	.6087	.0024	.0178	.0415	.3406	.5656	1.935	.1356	.0139
#2	.6059	.0021	.0186	.0408	.3257	.5421	1.867	.1377	.0149
#3	.6143	.0023	.0185	.0400	.3324	.5452	1.876	.1358	.0141

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1490**	**2.010**	**.0244**	**-.0019**	**1.143**	**-.0039**	**.0096**	**45.01**	**24.73**
Stddev	.0053	.004	.0058	.0028	.001	.0040	.0034	.25	.13
%RSD	3.547	.1741	23.73	146.3	.1245	102.2	35.07	.5471	.5247
#1	.1545	2.014	.0188	.0001	1.144	-.0060	.0057	44.99	24.69
#2	.1483	2.007	.0304	-.0007	1.141	-.0065	.0118	44.77	24.62
#3	.1440	2.009	.0240	-.0052	1.143	.0007	.0113	45.27	24.87

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**115.2**	**22.80**	**6.955**	**22.59**	**.0854**	**.0098**	**1.763**	**.2711**	**.1719**
Stddev	.7	.11	.072	.10	.0018	.0014	.003	.0009	.0013
%RSD	.6026	.4838	1.040	.4206	2.059	13.85	.1735	.3298	.7835
#1	115.0	22.74	7.033	22.63	.0842	.0091	1.761	.2714	.1716
#2	114.7	22.73	6.943	22.48	.0847	.0113	1.762	.2702	.1707
#3	116.0	22.92	6.890	22.66	.0874	.0088	1.766	.2719	.1733

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.303**	**.0156**	**.0480**	**31.57**	**.1045**	**.0459**	**8.678**
Stddev	.044	.0012	.0006	.06	.0078	.0074	.061
%RSD	1.928	7.611	1.326	.1861	7.505	16.15	.7074
#1	2.353	.0159	.0488	31.60	.1130	.0386	8.613
#2	2.271	.0166	.0478	31.51	.1029	.0534	8.686
#3	2.284	.0143	.0476	31.62	.0976	.0457	8.735

Zoom In Zoom Out

Sample Name: mp14275-sd1conf Acquired: 4/22/2019 13:42:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144990.**	**26944.**	**6646.4**	**9824.4**
Stddev	1800.	35.	11.4	15.4
%RSD	1.2414	.12921	.17205	.15683
#1	143010.	26942.	6633.9	9808.4
#2	146520.	26979.	6649.1	9825.4
#3	145450.	26910.	6656.3	9839.2

Zoom In Zoom Out

Sample Name: mp14275-ps1conf Acquired: 4/22/2019 13:47:02 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.567**	**1.946**	**2.008**	**2.084**	**2.251**	**2.516**	**3.689**	**2.188**	**.2556**
Stddev	.009	.005	.004	.004	.003	.003	.063	.005	.0002
%RSD	.3303	.2690	.2232	.1778	.1157	.1318	1.712	.2444	.0907
#1	2.558	1.940	2.004	2.080	2.248	2.512	3.618	2.181	.2555
#2	2.575	1.951	2.006	2.086	2.252	2.518	3.739	2.191	.2555
#3	2.569	1.947	2.013	2.087	2.253	2.517	3.710	2.191	.2559

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.085**	**3.827**	**2.089**	**2.118**	**3.138**	**2.007**	**2.036**	**67.59**	**48.08**
Stddev	.005	.013	.007	.001	.008	.003	.002	.21	.10
%RSD	.2604	.3382	.3272	.0643	.2467	.1586	.0884	.3053	.2158
#1	2.079	3.812	2.085	2.118	3.129	2.005	2.035	67.35	47.96
#2	2.087	3.829	2.085	2.120	3.141	2.011	2.035	67.74	48.14
#3	2.090	3.838	2.097	2.118	3.143	2.006	2.038	67.67	48.15

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**128.5**	**46.06**	**31.72**	**46.69**	**2.070**	**1.956**	**1.678**	**2.276**	**2.136**
Stddev	1.8	.10	.09	.16	.005	.005	.004	.008	.004
%RSD	1.409	.2208	.2895	.3410	.2593	.2521	.2293	.3378	.1945
#1	127.9	45.96	31.66	46.60	2.065	1.950	1.675	2.268	2.132
#2	127.0	46.06	31.82	46.61	2.069	1.958	1.676	2.278	2.138
#3	130.5	46.16	31.67	46.88	2.076	1.959	1.682	2.283	2.139

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.192**	**1.636**	**2.069**	**30.83**	**.2126**	**.0452**	F **10.47**
Stddev	.014	.006	.006	.04	.0012	.0002	.10
%RSD	.3407	.3905	.2720	.1166	.5679	.4416	.9227
#1	4.176	1.629	2.063	30.80	.2119	.0455	10.36
#2	4.196	1.639	2.072	30.87	.2120	.0452	10.53
#3	4.204	1.640	2.073	30.82	.2140	.0451	10.51

Zoom In Zoom Out

Sample Name: mp14275-ps1conf Acquired: 4/22/2019 13:47:02 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144080.**	**27515.**	**6557.9**	**9231.6**
Stddev	445.	157.	32.4	36.0
%RSD	.30856	.56924	.49430	.39002
#1	144360.	27566.	6590.8	9271.7
#2	144310.	27639.	6557.0	9221.2
#3	143570.	27339.	6525.9	9202.1

Zoom In Zoom Out

Sample Name: jc85722-36rconf Acquired: 4/22/2019 13:52:09 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.528**	**.0058**	**.0040**	**.0921**	**1.179**	**1.624**	**2.710**	**.1821**	**.0065**
Stddev	.008	.0000	.0003	.0005	.005	.005	.005	.0007	.0003
%RSD	.3114	.5840	6.899	.5161	.4170	.3416	.1854	.3776	5.247
#1	2.519	.0058	.0041	.0924	1.179	1.622	2.711	.1828	.0069
#2	2.533	.0058	.0037	.0915	1.174	1.619	2.705	.1814	.0065
#3	2.532	.0059	.0041	.0923	1.184	1.630	2.715	.1822	.0062

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2479**	**3.496**	**.1708**	**-.0009**	**9.299**	**.0070**	**.0030**	**94.55**	**27.09**
Stddev	.0006	.007	.0012	.0033	.016	.0007	.0018	.22	.07
%RSD	.2296	.2145	.6960	351.3	.1703	9.992	60.99	.2332	.2525
#1	.2473	3.497	.1701	.0001	9.302	.0076	.0020	94.32	27.02
#2	.2481	3.502	.1722	.0017	9.312	.0063	.0019	94.59	27.09
#3	.2484	3.488	.1701	-.0046	9.281	.0071	.0051	94.75	27.16

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**156.4**	**15.54**	**8.822**	**1.298**	**.0444**	**.0146**	**1.667**	**.2345**	**.3848**
Stddev	.3	.03	.043	.029	.0004	.0007	.005	.0016	.0009
%RSD	.2054	.2200	.4895	2.263	.9709	4.718	.3124	.6716	.2240
#1	156.1	15.55	8.778	1.328	.0443	.0150	1.667	.2338	.3841
#2	156.4	15.50	8.864	1.296	.0449	.0150	1.672	.2363	.3845
#3	156.7	15.56	8.825	1.270	.0440	.0138	1.661	.2334	.3858

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.696**	**.0326**	**.0526**	**2.202**	**.1159**	**.1229**	**7.355**
Stddev	.005	.0031	.0005	.008	.0015	.0027	.039
%RSD	.2036	9.356	.9899	.3598	1.306	2.157	.5325
#1	2.693	.0357	.0532	2.194	.1145	.1257	7.311
#2	2.693	.0327	.0523	2.210	.1156	.1204	7.366
#3	2.702	.0296	.0523	2.203	.1175	.1226	7.387

Zoom In Zoom Out

Sample Name: jc85722-36rconf Acquired: 4/22/2019 13:52:09 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147710.**	**27296.**	**6752.7**	**9703.1**
Stddev	365.	174.	19.7	27.8
%RSD	.24679	.63892	.29214	.28617
#1	147600.	27413.	6741.9	9692.6
#2	148110.	27379.	6740.7	9682.1
#3	147410.	27096.	6775.5	9734.5

Zoom In Zoom Out

Sample Name: jc75722-37rconf Acquired: 4/22/2019 13:57:06 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**30.00**	**.0042**	**.0028**	**.0896**	**.3947**	**1.281**	**3.728**	**.1952**	**.0129**
Stddev	.31	.0012	.0011	.0013	.0049	.005	.003	.0049	.0068
%RSD	1.038	27.56	37.65	1.397	1.246	.3956	.0911	2.521	53.15
#1	29.66	.0033	.0018	.0903	.3906	1.278	3.732	.1933	.0052
#2	30.27	.0055	.0027	.0882	.3935	1.279	3.728	.1916	.0152
#3	30.07	.0037	.0040	.0903	.4002	1.287	3.725	.2008	.0183

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2591**	**25.90**	**.1885**	**-.0053**	**186.5**	**-.0118**	**.0220**	**69.20**	**153.5**
Stddev	.0023	.02	.0227	.0190	.1	.0162	.0461	.81	1.5
%RSD	.8780	.0836	12.02	358.5	.0528	136.7	209.8	1.168	.9924
#1	.2583	25.91	.2126	-.0254	186.6	-.0279	.0746	68.27	151.8
#2	.2573	25.91	.1676	.0124	186.5	.0044	.0029	69.60	154.7
#3	.2617	25.87	.1853	-.0029	186.4	-.0119	-.0115	69.73	154.0

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**161.6**	**14.71**	**13.87**	**5.505**	**.0981**	**.0812**	**1.696**	**.6524**	**1.556**
Stddev	1.5	.15	.44	.171	.0062	.0041	.033	.0062	.015
%RSD	.9489	1.032	3.174	3.110	6.346	4.993	1.958	.9433	.9391
#1	159.9	14.54	13.46	5.562	.0922	.0793	1.670	.6549	1.542
#2	162.9	14.81	13.80	5.313	.0975	.0859	1.684	.6569	1.571
#3	162.0	14.79	14.34	5.641	.1046	.0784	1.733	.6454	1.555

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.676**	**.4014**	**.0406**	**8.666**	**.0605**	**-.0496**	**54.97**
Stddev	.010	.0074	.0062	.032	.0326	.0108	.66
%RSD	.5726	1.854	15.25	.3648	53.97	21.73	1.195
#1	1.687	.4100	.0386	8.687	.0966	-.0516	55.60
#2	1.669	.3975	.0475	8.681	.0515	-.0592	55.01
#3	1.671	.3968	.0356	8.629	.0332	-.0379	54.29

Zoom In Zoom Out

Sample Name: jc75722-37rconf Acquired: 4/22/2019 13:57:06 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146000.**	**26461.**	**6622.5**	**9938.6**
Stddev	754.	345.	12.9	16.7
%RSD	.51672	1.3023	.19494	.16813
#1	146810.	26833.	6610.0	9922.6
#2	145320.	26397.	6635.8	9955.9
#3	145880.	26152.	6621.7	9937.2

Zoom In Zoom Out

Sample Name: jc85722-39rconf Acquired: 4/22/2019 14:02:08 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.534**	**.0053**	**.0016**	**.0954**	**.4495**	**2.865**	**3.477**	**.2244**	**.0132**
Stddev	.008	.0003	.0004	.0010	.0020	.006	.006	.0012	.0013
%RSD	.5459	5.580	24.80	1.063	.4458	.1972	.1767	.5328	9.671
#1	1.530	.0054	.0018	.0943	.4472	2.870	3.484	.2243	.0118
#2	1.529	.0050	.0018	.0956	.4508	2.865	3.476	.2232	.0143
#3	1.544	.0056	.0011	.0963	.4506	2.859	3.471	.2256	.0136

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2668**	**3.897**	**.1761**	**-.0057**	**2.577**	**.0042**	**.0154**	**104.0**	**60.56**
Stddev	.0011	.002	.0018	.0044	.007	.0028	.0035	.5	.32
%RSD	.4233	.0603	1.048	77.39	.2611	67.05	22.67	.4952	.5248
#1	.2656	3.900	.1740	-.0013	2.569	.0024	.0150	103.8	60.42
#2	.2679	3.897	.1774	-.0056	2.581	.0027	.0121	103.6	60.34
#3	.2668	3.895	.1770	-.0101	2.581	.0074	.0190	104.6	60.93

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**639.7**	**22.75**	**13.70**	**5.661**	**.1039**	**.0369**	**3.458**	**.2966**	**.4720**
Stddev	11.0	.09	.16	.047	.0030	.0003	.017	.0000	.0017
%RSD	1.724	.4160	1.185	.8323	2.855	.6931	.4808	.0043	.3586
#1	636.0	22.65	13.66	5.671	.1005	.0367	3.477	.2966	.4712
#2	652.1	22.76	13.57	5.610	.1056	.0369	3.446	.2966	.4709
#3	631.0	22.84	13.88	5.702	.1057	.0372	3.452	.2967	.4740

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.236**	**.0302**	**.0651**	**3.553**	**.3541**	**.1286**	**6.058**
Stddev	.016	.0034	.0005	.015	.0038	.0048	.032
%RSD	.1906	11.32	.7299	.4204	1.076	3.747	.5277
#1	8.251	.0328	.0649	3.557	.3573	.1276	6.060
#2	8.220	.0315	.0656	3.537	.3499	.1338	6.024
#3	8.235	.0263	.0647	3.567	.3551	.1244	6.088

Zoom In Zoom Out

Sample Name: jc85722-39rconf Acquired: 4/22/2019 14:02:08 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143980.**	**26316.**	**6570.0**	**9715.4**
Stddev	466.	210.	4.8	3.4
%RSD	.32376	.79957	.07231	.03533
#1	143440.	26449.	6571.6	9718.6
#2	144170.	26425.	6564.7	9711.8
#3	144320.	26073.	6573.8	9715.7

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 14:07:19 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.054**	**2.025**	**2.027**	**2.056**	**2.018**	**2.009**	**2.060**	**2.067**	**.2505**
Stddev	.009	.009	.003	.002	.002	.003	.008	.001	.0001
%RSD	.4644	.4524	.1380	.0991	.1084	.1391	.3976	.0518	.0367
#1	2.063	2.034	2.030	2.059	2.019	2.009	2.050	2.068	.2505
#2	2.054	2.024	2.024	2.055	2.019	2.012	2.066	2.066	.2504
#3	2.044	2.016	2.027	2.055	2.015	2.007	2.062	2.068	.2506
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.016**	**2.045**	**2.035**	**2.107**	**2.058**	**2.037**	**2.035**	**40.08**	**40.38**
Stddev	.002	.001	.001	.008	.002	.005	.003	.19	.20
%RSD	.0829	.0688	.0694	.3902	.0744	.2283	.1486	.4688	.4992
#1	2.015	2.045	2.037	2.100	2.058	2.038	2.035	40.29	40.60
#2	2.018	2.046	2.034	2.105	2.057	2.032	2.032	40.04	40.34
#3	2.015	2.044	2.035	2.116	2.060	2.041	2.038	39.92	40.20
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.14**	**40.54**	**40.68**	**41.46**	**2.057**	**2.058**	**5.306**	**2.063**	**2.046**
Stddev	.18	.21	.21	.22	.003	.001	.011	.001	.008
%RSD	.4427	.5140	.5192	.5221	.1499	.0413	.2132	.0569	.3910
#1	40.32	40.77	40.90	41.64	2.061	2.057	5.316	2.063	2.052
#2	40.13	40.48	40.66	41.52	2.057	2.058	5.294	2.063	2.048
#3	39.96	40.37	40.48	41.22	2.055	2.059	5.308	2.061	2.037
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 14:07:19 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.044**	**2.016**	**2.060**	**1.991**	**2.059**	**1.983**	**1.916**
Stddev	.001	.002	.003	.009	.004	.008	.028
%RSD	.0598	.1053	.1300	.4338	.1822	.4167	1.457
#1	2.043	2.015	2.061	1.983	2.061	1.991	1.886
#2	2.046	2.019	2.063	1.989	2.054	1.983	1.921
#3	2.044	2.015	2.057	2.000	2.060	1.975	1.941
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**137330.**	**25726.**	**6257.2**	**9036.8**
Stddev	321.	169.	17.7	25.7
%RSD	.23374	.65693	.28344	.28404
#1	137690.	25532.	6267.9	9057.8
#2	137070.	25839.	6236.8	9008.2
#3	137240.	25808.	6267.0	9044.4

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 14:12:21 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0000**	**-.0001**	**-.0002**	**-.0000**	**.0004**	**-.0000**	**-.0000**	**-.0006**
Stddev	.0001	.0001	.0000	.0000	.0002	.0002	.0000	.0002	.0006
%RSD	70.28	325.7	69.69	18.52	1826.	40.61	110.9	482.0	108.2
#1	-.0000	.0001	-.0000	-.0002	.0001	.0002	-.0000	-.0001	-.0007
#2	-.0002	-.0001	-.0000	-.0002	-.0002	.0005	-.0000	-.0002	.0001
#3	-.0002	.0001	-.0001	-.0001	.0001	.0004	-.0000	.0002	-.0011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0000**	**-.0003**	**.0000**	**.0010**	**-.0011**	**-.0003**	**-.0022**	**-.0036**
Stddev	.0001	.0000	.0006	.0006	.0006	.0007	.0010	.0037	.0010
%RSD	35.27	56.56	227.9	1181.	58.42	59.40	402.0	169.6	28.44
#1	-.0002	-.0000	.0004	.0007	.0004	-.0019	-.0012	-.0060	-.0047
#2	-.0004	-.0001	-.0004	-.0004	.0016	-.0009	.0008	.0013	-.0036
#3	-.0005	-.0000	-.0008	-.0001	.0010	-.0006	-.0004	-.0018	-.0026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0013**	**-.0065**	**.1846**	**.0858**	**.0030**	**.0004**	**.0000**	**.0001**	**-.0000**
Stddev	.0006	.0075	.0351	.0028	.0003	.0001	.0000	.0001	.0001
%RSD	48.99	115.0	19.00	3.256	8.498	31.73	96.10	98.24	212.4
#1	.0006	-.0024	.2251	.0876	.0029	.0005	.0000	.0000	-.0001
#2	.0018	-.0020	.1651	.0826	.0033	.0003	.0000	.0001	-.0000
#3	.0014	-.0152	.1635	.0873	.0028	.0005	.0001	.0003	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 14:12:21 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0029**	**.0002**	**.0009**	**-.0001**	**-.0031**	**.0098**
Stddev	.0004	.0006	.0001	.0013	1592.	41.49	28.38
%RSD	222.5	20.45	62.47	143.7	.0011	.0013	.0028
#1	-.0006	.0024	.0002	.0001	-.0012	-.0031	.0067
#2	.0003	.0035	.0003	.0025	.0000	-.0044	.0110
#3	-.0003	.0026	.0001	.0002	.0009	-.0018	.0119

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**145330.**	**25893.**	**6512.3**	**9948.0**
Stddev	125.	40.	15.8	8.9
%RSD	.08623	.15484	.24202	.08918
#1	145200.	25931.	6518.7	9952.1
#2	145340.	25851.	6494.3	9937.8
#3	145450.	25897.	6523.8	9954.0

Zoom In Zoom Out

Sample Name: jc85722-42rconf Acquired: 4/22/2019 14:17:29 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.442**	**.0033**	**.0023**	**.1355**	**.1810**	**.6624**	**2.492**	**.3813**	**-.0212**
Stddev	.159	.0002	.0004	.0078	.0123	.0481	.168	.0178	.0050
%RSD	11.03	7.298	17.85	5.744	6.822	7.259	6.750	4.665	23.79
#1	1.281	.0032	.0021	.1276	.1683	.6135	2.318	.3645	-.0267
#2	1.448	.0032	.0021	.1357	.1817	.6642	2.506	.3795	-.0198
#3	1.599	.0036	.0028	.1431	.1930	.7096	2.654	.4000	-.0169

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2204**	**4.637**	**.2784**	**-.0082**	**33.74**	**-.0195**	**.0357**	**56.44**	**27.10**
Stddev	.0159	.239	.0226	.0060	1.84	.0053	.0158	6.46	2.97
%RSD	7.193	5.151	8.124	73.04	5.450	27.48	44.18	11.44	10.97
#1	.2044	4.398	.2549	-.0030	31.88	-.0207	.0539	49.95	24.10
#2	.2209	4.636	.2803	-.0068	33.78	-.0136	.0262	56.51	27.17
#3	.2361	4.876	.3000	-.0148	35.55	-.0241	.0269	62.86	30.05

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**324.7**	**12.83**	**6.302**	**1.133**	**.0450**	**.0415**	**1.801**	**11.47**	**.2821**
Stddev	36.9	1.40	.463	.013	.0047	.0037	.082	.57	.0314
%RSD	11.36	10.88	7.340	1.177	10.43	9.026	4.565	4.994	11.13
#1	287.7	11.43	5.859	1.121	.0402	.0378	1.718	10.89	.2506
#2	325.0	12.84	6.265	1.147	.0452	.0415	1.802	11.49	.2823
#3	361.4	14.22	6.782	1.130	.0496	.0453	1.882	12.03	.3133

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.806**	**.0026**	**.0183**	**2.368**	**.1000**	**.0466**	**10.73**
Stddev	.123	.0032	.0025	.134	.0096	.0025	.62
%RSD	6.804	123.1	13.55	5.678	9.615	5.265	5.765
#1	1.678	.0063	.0156	2.223	.0934	.0439	10.13
#2	1.815	.0009	.0189	2.393	.0956	.0487	10.70
#3	1.923	.0006	.0205	2.488	.1111	.0472	11.37

Zoom In Zoom Out

Sample Name: jc85722-42rconf Acquired: 4/22/2019 14:17:29 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144450.**	**26565.**	**6593.6**	**9764.3**
Stddev	363.	162.	15.0	15.7
%RSD	.25145	.60908	.22709	.16073
#1	144510.	26656.	6576.9	9747.3
#2	144060.	26661.	6605.7	9778.3
#3	144780.	26379.	6598.2	9767.4

Zoom In Zoom Out

Sample Name: mp14303-mb1conf Acquired: 4/22/2019 14:22:28 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0001**	**.0000**	**-.0003**	**.0003**	**.0000**	**.0002**	**.0003**	**-.0003**
Stddev	.0004	.0000	.0001	.0002	.0003	.0001	.0000	.0005	.0003
%RSD	142.3	48.94	699.8	79.57	91.64	416.5	15.74	153.8	90.83
#1	.0000	-.0001	.0000	-.0002	.0006	-.0000	.0002	.0009	-.0005
#2	-.0007	-.0001	-.0001	-.0005	.0003	-.0001	.0002	-.0001	-.0005
#3	-.0001	-.0000	.0001	-.0001	.0000	.0002	.0002	.0003	.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0073**	**-.0011**	**-.0007**	**.0001**	**-.0002**	**.0003**	**.0043**	**.3379**
Stddev	.0001	.0001	.0010	.0008	.0001	.0015	.0009	.0105	.0023
%RSD	20.21	1.191	88.71	127.7	148.2	1008.	315.6	244.5	.6779
#1	-.0004	.0074	-.0022	-.0012	.0002	-.0011	.0005	-.0051	.3372
#2	-.0004	.0073	-.0009	.0003	-.0000	-.0009	-.0007	.0023	.3405
#3	-.0003	.0073	-.0003	-.0011	.0000	.0016	.0010	.0157	.3361

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0052**	**.0090**	**.1104**	**.0721**	**.0014**	**.0003**	**.0065**	**-.0003**	**.0003**
Stddev	.0012	.0094	.0375	.0087	.0004	.0002	.0010	.0000	.0000
%RSD	23.52	104.0	33.98	12.04	30.27	47.69	15.42	8.896	6.051
#1	.0045	.0199	.0846	.0724	.0019	.0005	.0075	-.0003	.0003
#2	.0067	.0037	.0932	.0633	.0011	.0004	.0055	-.0003	.0003
#3	.0045	.0035	.1535	.0807	.0012	.0002	.0065	-.0002	.0004

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0032**	**.0002**	**.0109**	**-.0003**	**-.0009**	**.0086**
Stddev	.0001	.0008	.0002	.0027	.0007	.0010	.0024
%RSD	45.31	25.09	72.20	24.61	258.2	115.2	27.79
#1	.0004	.0024	.0000	.0082	-.0010	-.0001	.0111
#2	.0003	.0032	.0003	.0136	-.0002	-.0021	.0083
#3	.0001	.0040	.0003	.0108	.0004	-.0005	.0064

Zoom In Zoom Out

Sample Name: mp14303-mb1conf Acquired: 4/22/2019 14:22:28 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147360.**	**26570.**	**6610.1**	**10042.**
Stddev	663.	164.	11.1	12.
%RSD	.44968	.61892	.16732	.12428
#1	146590.	26573.	6609.1	10033.
#2	147740.	26404.	6599.6	10036.
#3	147730.	26733.	6621.7	10056.

Zoom In Zoom Out

Sample Name: jc86442-5 7 Acquired: 4/22/2019 14:27:34 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6868**	**.0001**	**-.0003**	**.0001**	**.0035**	**.0062**	**4.632**	**.0019**	**-.0010**
Stddev	.0013	.0000	.0001	.0007	.0002	.0005	.040	.0008	.0013
%RSD	.1840	46.07	37.13	1091.	5.515	7.852	.8533	41.10	127.0
#1	.6858	.0001	-.0002	-.0000	.0033	.0066	4.587	.0019	-.0001
#2	.6863	.0001	-.0004	-.0006	.0037	.0056	4.648	.0027	-.0024
#3	.6882	.0001	-.0003	.0008	.0034	.0063	4.661	.0011	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0097**	**.0985**	**.0000**	**-.0009**	**.0018**	**.0005**	**-.0002**	**.1011**	**308.1**
Stddev	.0005	.0001	.0011	.0010	.0034	.0028	.0021	.0046	3.1
%RSD	5.147	.1144	12500.	121.2	184.0	558.1	956.4	4.543	.9961
#1	.0095	.0985	-.0012	-.0003	.0047	.0029	.0016	.0961	309.5
#2	.0093	.0986	.0009	-.0002	-.0019	.0011	.0002	.1021	310.3
#3	.0102	.0984	.0003	-.0021	.0026	-.0026	-.0024	.1051	304.6

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7306**	**41.19**	**13.62**	F **1077.**	**.3659**	**.0059**	**8.498**	**-.0033**	**1.717**
Stddev	.0011	.05	.18	10.	.0009	.0005	.003	.0005	.002
%RSD	.1498	.1131	1.325	.8966	.2443	8.567	.0393	16.22	.1041
#1	.7307	41.14	13.44	1087.	.3650	.0056	8.496	-.0032	1.715
#2	.7295	41.20	13.61	1075.	.3658	.0065	8.502	-.0039	1.717
#3	.7317	41.22	13.80	1068.	.3668	.0056	8.498	-.0029	1.719

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0022**	**.0077**	**.0008**	**16.37**	**.0029**	**.0597**	**.1168**
Stddev	.0013	.0020	.0002	.06	.0008	.0025	.0044
%RSD	57.85	25.75	27.77	.3695	27.78	4.178	3.804
#1	.0035	.0100	.0010	16.31	.0020	.0598	.1200
#2	.0010	.0069	.0007	16.43	.0034	.0572	.1117
#3	.0021	.0063	.0006	16.37	.0033	.0622	.1185

Zoom In Zoom Out

Sample Name: jc86442-5 7 Acquired: 4/22/2019 14:27:34 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**131470.**	**25567.**	**5925.9**	**8249.4**
Stddev	555.	55.	10.2	8.1
%RSD	.42204	.21321	.17235	.09855
#1	131900.	25521.	5935.4	8254.1
#2	131660.	25554.	5915.1	8240.1
#3	130840.	25627.	5927.3	8254.2

Zoom In Zoom Out

Sample Name: MP14334-MB1 7 Acquired: 4/22/2019 14:33:00 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0000**	**-.0000**	**-.0003**	**.0000**	**.0004**	**.0001**	**.0000**	**-.0002**
Stddev	.0003	.0001	.0002	.0001	.0002	.0002	.0000	.0004	.0005
%RSD	67.11	1996.	9055.	57.26	2048.	35.56	37.70	2858.	272.6
#1	-.0002	.0000	.0002	-.0004	.0001	.0005	.0001	.0003	.0000
#2	-.0007	.0001	-.0002	-.0001	.0001	.0005	.0001	.0001	.0002
#3	-.0003	-.0001	.0000	-.0003	-.0002	.0003	.0001	-.0004	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0027**	**-.0004**	**-.0002**	**.0003**	**-.0013**	**.0003**	**-.0029**	**.0019**
Stddev	.0001	.0001	.0013	.0010	.0006	.0017	.0001	.0065	.0013
%RSD	26.59	3.029	292.9	418.8	191.4	131.1	39.42	225.3	71.97
#1	-.0005	.0028	.0002	.0008	.0003	-.0004	.0002	.0038	.0033
#2	-.0005	.0026	.0004	-.0004	.0008	-.0032	.0004	-.0092	.0006
#3	-.0003	.0028	-.0019	-.0011	-.0003	-.0002	.0003	-.0032	.0018

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**-.0086**	**.3296**	**.3361**	**.0016**	**.0001**	**.0064**	**-.0004**	**.0000**
Stddev	.0018	.0010	.0187	.0095	.0003	.0002	.0016	.0005	.0001
%RSD	70.97	11.13	5.675	2.824	22.21	213.2	24.98	124.4	1004.
#1	.0018	-.0093	.3240	.3413	.0020	-.0001	.0082	-.0007	.0000
#2	.0045	-.0089	.3504	.3419	.0013	.0003	.0061	-.0005	.0001
#3	.0012	-.0075	.3143	.3252	.0014	.0001	.0050	.0001	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0023**	**.0002**	**.0044**	**.0010**	**.0016**	**.0017**
Stddev	.0003	.0002	.0002	.0008	.0007	.0010	.0024
%RSD	669.1	8.623	68.11	17.10	73.39	59.37	142.5
#1	-.0001	.0023	.0003	.0042	.0016	.0011	.0045
#2	.0003	.0021	.0001	.0038	.0002	.0028	-.0001
#3	-.0002	.0024	.0004	.0052	.0011	.0010	.0008

Zoom In Zoom Out

Sample Name: MP14334-MB1 7 Acquired: 4/22/2019 14:33:00 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147230.**	**26525.**	**6594.9**	**10019.**
Stddev	359.	18.	11.4	12.
%RSD	.24413	.06768	.17303	.11617
#1	146810.	26514.	6596.5	10030.
#2	147420.	26546.	6582.7	10007.
#3	147450.	26515.	6605.4	10020.

Zoom In Zoom Out

Sample Name: MP14334-B1 Acquired: 4/22/2019 14:38:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.031**	**2.004**	**1.987**	**2.028**	**1.985**	**1.990**	**2.010**	**2.038**	**.2628**
Stddev	.006	.005	.002	.002	.006	.002	.028	.001	.0006
%RSD	.3159	.2621	.1004	.0742	.2891	.0967	1.377	.0697	.2233
#1	2.026	2.000	1.988	2.029	1.979	1.988	2.010	2.040	.2622
#2	2.038	2.010	1.985	2.026	1.990	1.992	2.037	2.037	.2633
#3	2.029	2.002	1.988	2.029	1.985	1.990	1.982	2.038	.2628

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.981**	**2.004**	**2.022**	**2.105**	**2.033**	**1.990**	**2.042**	**25.09**	**25.30**
Stddev	.002	.002	.002	.008	.001	.000	.000	.08	.07
%RSD	.0828	.0762	.1021	.3701	.0551	.0121	.0212	.3187	.2788
#1	1.979	2.006	2.024	2.114	2.034	1.990	2.043	25.03	25.26
#2	1.982	2.003	2.022	2.098	2.033	1.990	2.042	25.18	25.38
#3	1.981	2.004	2.020	2.104	2.032	1.990	2.042	25.05	25.27

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.17**	**25.39**	**25.46**	**25.97**	**2.009**	**2.072**	**.0408**	**2.080**	**2.021**
Stddev	.05	.04	.09	.05	.003	.002	.0021	.003	.003
%RSD	.1935	.1572	.3398	.1976	.1267	.0860	5.090	.1477	.1304
#1	25.13	25.38	25.37	25.93	2.010	2.074	.0393	2.082	2.019
#2	25.22	25.43	25.55	26.03	2.006	2.071	.0399	2.076	2.024
#3	25.15	25.36	25.45	25.96	2.011	2.071	.0432	2.082	2.020

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.050**	**1.929**	**2.059**	**.0247**	**.1257**	**-.0014**	**2.103**
Stddev	.002	.002	.000	.0009	.0014	.0018	.002
%RSD	.0855	.1098	.0213	3.577	1.089	126.1	.0973
#1	2.050	1.927	2.059	.0257	.1251	-.0020	2.101
#2	2.052	1.930	2.060	.0246	.1272	-.0028	2.105
#3	2.049	1.930	2.059	.0239	.1247	.0006	2.104

Zoom In Zoom Out

Sample Name: MP14334-B1 Acquired: 4/22/2019 14:38:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**141730.**	**26382.**	**6421.0**	**9312.5**
Stddev	631.	195.	7.8	14.5
%RSD	.44535	.74060	.12215	.15560
#1	142430.	26343.	6414.4	9297.3
#2	141190.	26209.	6429.7	9326.2
#3	141570.	26594.	6419.0	9314.1

Zoom In Zoom Out

Sample Name: MP14334-B2 Acquired: 4/22/2019 14:43:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.039**	**2.014**	**1.991**	**2.034**	**1.985**	**1.990**	**2.032**	**2.043**	**.2629**
Stddev	.006	.008	.003	.001	.002	.001	.025	.000	.0005
%RSD	.2841	.3771	.1290	.0644	.0987	.0595	1.210	.0159	.2082
#1	2.039	2.010	1.992	2.035	1.987	1.990	2.004	2.042	.2627
#2	2.034	2.009	1.993	2.034	1.986	1.990	2.045	2.043	.2636
#3	2.045	2.023	1.988	2.032	1.983	1.988	2.047	2.042	.2625

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.986**	**2.008**	**2.032**	**2.116**	**2.038**	**1.998**	**2.047**	**25.18**	**25.44**
Stddev	.001	.001	.004	.006	.001	.004	.003	.07	.08
%RSD	.0553	.0677	.1863	.2676	.0526	.2095	.1566	.2698	.3261
#1	1.985	2.010	2.030	2.123	2.039	2.002	2.044	25.17	25.40
#2	1.987	2.008	2.036	2.113	2.039	1.994	2.050	25.11	25.38
#3	1.987	2.007	2.029	2.114	2.037	1.997	2.046	25.25	25.54

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.29**	**25.55**	**25.57**	**26.21**	**2.016**	**2.075**	**.0217**	**2.084**	**2.031**
Stddev	.07	.07	.08	.04	.000	.001	.0004	.003	.004
%RSD	.2753	.2721	.3092	.1336	.0087	.0488	1.694	.1404	.1975
#1	25.25	25.52	25.59	26.24	2.016	2.076	.0213	2.085	2.028
#2	25.24	25.50	25.48	26.20	2.016	2.076	.0220	2.086	2.029
#3	25.37	25.63	25.64	26.18	2.016	2.074	.0218	2.080	2.035

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.056**	**1.968**	**2.067**	**.0234**	**.1266**	**-.0014**	**2.085**
Stddev	.002	.003	.001	.0004	.0018	.0012	.015
%RSD	.0914	.1715	.0414	1.747	1.436	81.10	.7329
#1	2.054	1.966	2.066	.0229	.1275	-.0026	2.101
#2	2.056	1.972	2.067	.0235	.1277	-.0002	2.084
#3	2.057	1.966	2.067	.0237	.1245	-.0015	2.071

Zoom In Zoom Out

Sample Name: MP14334-B2 Acquired: 4/22/2019 14:43:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**141930.**	**26280.**	**6433.0**	**9330.7**
Stddev	280.	93.	6.3	11.6
%RSD	.19719	.35309	.09840	.12407
#1	142090.	26237.	6425.8	9317.9
#2	142100.	26386.	6435.2	9340.4
#3	141610.	26216.	6437.9	9333.9

Zoom In Zoom Out

Sample Name: MP14334-S1 Acquired: 4/22/2019 14:48:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.940**	**1.886**	**1.893**	**1.936**	**1.841**	**1.856**	**1.957**	**1.949**	**.2488**
Stddev	.005	.004	.002	.001	.007	.006	.006	.002	.0006
%RSD	.2393	.1946	.1225	.0643	.4096	.3403	.3008	.1104	.2337
#1	1.936	1.882	1.894	1.937	1.849	1.862	1.963	1.950	.2495
#2	1.940	1.888	1.894	1.936	1.841	1.855	1.956	1.951	.2484
#3	1.945	1.888	1.890	1.934	1.834	1.850	1.951	1.947	.2486

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.860**	**1.931**	**1.961**	**1.967**	**1.934**	**1.919**	**1.950**	**24.27**	**61.63**
Stddev	.006	.002	.002	.007	.001	.003	.001	.06	.08
%RSD	.3268	.0927	.1059	.3430	.0237	.1529	.0398	.2292	.1336
#1	1.866	1.931	1.964	1.975	1.934	1.922	1.950	24.21	61.54
#2	1.861	1.932	1.960	1.962	1.934	1.919	1.950	24.28	61.63
#3	1.854	1.929	1.960	1.965	1.935	1.916	1.949	24.32	61.71

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.31**	**25.47**	**27.38**	**135.6**	**1.962**	**1.956**	**7.308**	**1.946**	**2.103**
Stddev	.02	.01	.05	1.6	.003	.003	.010	.002	.002
%RSD	.0658	.0434	.1936	1.187	.1565	.1581	.1400	.1208	.0917
#1	25.29	25.47	27.33	137.3	1.963	1.959	7.318	1.949	2.103
#2	25.31	25.46	27.39	134.1	1.965	1.954	7.309	1.944	2.102
#3	25.32	25.48	27.43	135.6	1.959	1.954	7.298	1.946	2.105

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.931**	**1.879**	**1.927**	**5.373**	**.1198**	**.0052**	**2.278**
Stddev	.006	.003	.006	.029	.0013	.0035	.015
%RSD	.3118	.1476	.3245	.5476	1.105	66.74	.6627
#1	1.934	1.880	1.932	5.406	.1185	.0072	2.295
#2	1.934	1.881	1.929	5.350	.1199	.0012	2.271
#3	1.924	1.876	1.920	5.363	.1211	.0073	2.267

Zoom In Zoom Out

Sample Name: MP14334-S1 Acquired: 4/22/2019 14:48:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**139350.**	**26440.**	**6252.3**	**8873.2**
Stddev	307.	58.	1.2	2.4
%RSD	.22039	.21867	.01980	.02699
#1	139340.	26450.	6253.7	8873.2
#2	139670.	26492.	6252.0	8875.6
#3	139050.	26377.	6251.2	8870.8

Zoom In Zoom Out

Sample Name: MP14334-S2 Acquired: 4/22/2019 14:53:15 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.935**	**1.881**	**1.864**	**1.909**	**1.848**	**1.860**	**1.944**	**1.922**	**.2494**
Stddev	.004	.003	.001	.001	.005	.004	.013	.000	.0003
%RSD	.2060	.1794	.0614	.0602	.2617	.2159	.6798	.0113	.1366
#1	1.940	1.885	1.863	1.910	1.853	1.862	1.955	1.923	.2496
#2	1.932	1.879	1.865	1.910	1.843	1.855	1.929	1.922	.2490
#3	1.934	1.879	1.865	1.908	1.848	1.862	1.947	1.922	.2496

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.865**	**1.904**	**1.930**	**1.940**	**1.905**	**1.885**	**1.918**	**24.24**	**61.17**
Stddev	.001	.001	.003	.007	.001	.006	.001	.02	.09
%RSD	.0342	.0760	.1436	.3822	.0536	.3407	.0705	.0671	.1408
#1	1.864	1.902	1.927	1.933	1.904	1.879	1.918	24.26	61.27
#2	1.865	1.905	1.931	1.947	1.906	1.892	1.917	24.23	61.11
#3	1.865	1.904	1.933	1.939	1.904	1.886	1.919	24.24	61.13

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.22**	**25.45**	**27.26**	**134.6**	**1.937**	**1.927**	**7.097**	**1.917**	**2.094**
Stddev	.01	.02	.05	1.1	.001	.002	.004	.002	.000
%RSD	.0508	.0797	.1815	.8184	.0622	.0803	.0520	.1134	.0080
#1	25.24	25.43	27.25	133.6	1.936	1.926	7.095	1.915	2.095
#2	25.21	25.46	27.22	134.5	1.937	1.927	7.102	1.920	2.095
#3	25.22	25.46	27.31	135.8	1.938	1.929	7.096	1.917	2.094

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.935**	**1.842**	**1.930**	**5.234**	**.1191**	**.0066**	**2.204**
Stddev	.002	.002	.001	.023	.0018	.0006	.017
%RSD	.0836	.1314	.0394	.4472	1.526	9.584	.7720
#1	1.934	1.841	1.930	5.208	.1173	.0063	2.192
#2	1.937	1.845	1.930	5.251	.1192	.0073	2.224
#3	1.934	1.840	1.929	5.245	.1209	.0062	2.196

Zoom In Zoom Out

Sample Name: MP14334-S2 Acquired: 4/22/2019 14:53:15 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**136970.**	**26005.**	**6244.5**	**8867.9**
Stddev	496.	30.	7.8	5.4
%RSD	.36197	.11616	.12558	.06062
#1	136740.	26023.	6253.5	8872.3
#2	137540.	26022.	6239.6	8861.9
#3	136630.	25970.	6240.4	8869.4

Zoom In Zoom Out

Sample Name: JC86402-9A Acquired: 4/22/2019 14:58:23 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0410**	**.0000**	**.0001**	**.0001**	**.0023**	**.0153**	**.0874**	**.0019**	**-.0001**
Stddev	.0003	.0000	.0000	.0002	.0003	.0002	.0001	.0001	.0002
%RSD	.8304	165.0	21.71	210.1	15.00	1.150	.1256	5.672	303.2
#1	.0406	.0001	.0001	.0001	.0019	.0152	.0874	.0018	-.0000
#2	.0411	.0000	.0002	.0003	.0025	.0155	.0873	.0020	.0001
#3	.0412	-.0000	.0001	-.0001	.0025	.0151	.0875	.0018	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0072**	**.0297**	**.0033**	**-.0003**	**.0035**	**-.0010**	**.0014**	**.5553**	**38.78**
Stddev	.0003	.0001	.0014	.0007	.0003	.0015	.0008	.0070	.09
%RSD	3.864	.2756	43.74	271.1	8.972	157.0	52.07	1.261	.2326
#1	.0069	.0297	.0041	-.0006	.0038	-.0027	.0023	.5574	38.71
#2	.0075	.0298	.0041	-.0008	.0032	-.0004	.0009	.5475	38.75
#3	.0072	.0297	.0016	.0006	.0036	.0002	.0011	.5611	38.88

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.766**	**1.941**	**3.500**	**114.1**	**.0594**	**.0052**	**6.947**	**-.0015**	**.2151**
Stddev	.007	.011	.007	.4	.0009	.0001	.006	.0004	.0004
%RSD	.4114	.5550	.2119	.3333	1.504	1.228	.0911	27.03	.1797
#1	1.761	1.953	3.504	114.0	.0599	.0053	6.954	-.0012	.2151
#2	1.763	1.937	3.491	113.7	.0600	.0053	6.946	-.0020	.2147
#3	1.774	1.932	3.503	114.5	.0584	.0052	6.942	-.0014	.2155

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0145**	**.0058**	**.0007**	**5.351**	**.0013**	**.0067**	**.2320**
Stddev	.0002	.0008	.0002	.012	.0017	.0007	.0043
%RSD	1.640	13.45	35.30	.2308	130.9	11.15	1.835
#1	.0144	.0064	.0005	5.361	-.0003	.0064	.2339
#2	.0148	.0060	.0010	5.337	.0011	.0061	.2349
#3	.0143	.0049	.0006	5.355	.0031	.0075	.2271

Zoom In Zoom Out

Sample Name: JC86402-9A Acquired: 4/22/2019 14:58:23 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**139920.**	**26071.**	**6320.4**	**9036.9**
Stddev	362.	122.	16.0	15.4
%RSD	.25861	.46804	.25335	.17013
#1	140340.	26209.	6304.8	9031.1
#2	139710.	25975.	6336.8	9054.4
#3	139720.	26031.	6319.6	9025.3

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/22/2019 15:03:35 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0018**	**-.0003**	**-.0003**	**-.0001**	**-.0001**	**-.0034**	**-.0000**	**.0001**	**-.0005**
Stddev	.0001	.0000	.0000	.0001	.0001	.0001	.0000	.0003	.0001
%RSD	5.775	4.862	14.15	70.27	72.21	3.238	28.16	273.9	29.06
#1	-.0017	-.0003	-.0003	-.0001	-.0001	-.0035	-.0000	-.0002	-.0004
#2	-.0019	-.0003	-.0002	-.0001	-.0001	-.0033	-.0000	.0001	-.0006
#3	-.0017	-.0003	-.0003	-.0002	-.0000	-.0034	-.0000	.0004	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0008**	**.0001**	**.0015**	**.0015**	**-.0001**	**-.0024**	**-.0017**	**-.0062**	**-.0077**
Stddev	.0002	.0000	.0011	.0009	.0007	.0012	.0005	.0056	.0009
%RSD	22.18	26.42	73.89	60.41	1208.	47.36	28.82	90.42	11.48
#1	-.0009	.0001	.0002	.0023	-.0005	-.0025	-.0020	-.0007	-.0086
#2	-.0010	.0001	.0020	.0005	-.0004	-.0012	-.0011	-.0119	-.0069
#3	-.0006	.0001	.0023	.0017	.0007	-.0036	-.0019	-.0061	-.0075

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0017**	**-.0099**	**.0673**	**.1259**	**.0024**	**.0002**	**-.0074**	**-.0006**	**.0000**
Stddev	.0005	.0022	.0062	.0035	.0003	.0001	.0010	.0003	.0000
%RSD	29.29	22.04	9.269	2.785	14.43	54.07	13.21	41.85	69.37
#1	-.0011	-.0084	.0739	.1265	.0021	.0003	-.0083	-.0003	.0000
#2	-.0020	-.0089	.0664	.1291	.0024	.0001	-.0076	-.0008	.0000
#3	-.0020	-.0124	.0615	.1221	.0028	.0001	-.0063	-.0008	.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0006**	**.0003**	**-.0038**	**.0012**	**.0079**	**.0011**
Stddev	.0001	.0004	.0000	.0012	.0007	.0007	.0006
%RSD	42.74	65.95	12.06	31.73	53.43	8.521	56.34
#1	-.0002	-.0006	.0003	-.0049	.0018	.0087	.0014
#2	-.0002	-.0003	.0003	-.0025	.0005	.0073	.0004
#3	-.0001	-.0011	.0004	-.0038	.0013	.0078	.0015

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/22/2019 15:03:35 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**277360.**	**43321.**	**13839.**	**20247.**
Stddev	3241.	333.	64.	88.
%RSD	1.1685	.76864	.46262	.43321
#1	279930.	43006.	13910.	20343.
#2	278420.	43288.	13785.	20172.
#3	273720.	43669.	13821.	20226.

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 15:08:51 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.176**	**2.139**	**2.134**	**2.159**	**2.136**	**2.131**	**2.161**	**2.172**	**.2658**
Stddev	.001	.002	.007	.007	.001	.003	.041	.007	.0006
%RSD	.0392	.0746	.3310	.3123	.0619	.1419	1.902	.3162	.2248
#1	2.175	2.139	2.126	2.151	2.137	2.134	2.206	2.164	.2656
#2	2.177	2.140	2.138	2.163	2.137	2.131	2.149	2.177	.2665
#3	2.177	2.137	2.139	2.163	2.134	2.128	2.127	2.175	.2653
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.125**	**2.161**	**2.150**	F **2.209**	**2.161**	**2.151**	**2.149**	**42.39**	**42.71**
Stddev	.002	.007	.007	.007	.008	.009	.009	.03	.04
%RSD	.0847	.3283	.3441	.3178	.3739	.4019	.4200	.0740	.0987
#1	2.128	2.153	2.142	2.205	2.152	2.142	2.139	42.40	42.72
#2	2.124	2.162	2.156	2.217	2.168	2.159	2.155	42.41	42.75
#3	2.124	2.167	2.153	2.205	2.161	2.152	2.154	42.35	42.67
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				2.000					
Range				10.00%					

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**42.35**	**42.68**	**42.97**	**43.79**	**2.181**	**2.172**	F **5.603**	**2.170**	**2.175**
Stddev	.04	.05	.05	.02	.009	.007	.019	.005	.002
%RSD	.0986	.1191	.1084	.0455	.3953	.3155	.3425	.2406	.1011
#1	42.37	42.69	43.02	43.81	2.172	2.164	5.581	2.164	2.177
#2	42.37	42.72	42.93	43.78	2.183	2.176	5.613	2.171	2.176
#3	42.30	42.62	42.96	43.78	2.189	2.176	5.615	2.175	2.173
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value							5.000		
Range							10.00%		

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 15:08:51 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.162**	**2.128**	**2.171**	**2.124**	**2.180**	**2.108**	F **2.227**
Stddev	.003	.006	.002	.007	.007	.002	.015
%RSD	.1389	.2898	.0893	.3201	.3169	.0701	.6702
#1	2.165	2.122	2.173	2.118	2.173	2.108	2.211
#2	2.161	2.128	2.170	2.131	2.186	2.109	2.229
#3	2.159	2.134	2.171	2.121	2.182	2.106	2.241
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value							2.000
Range							10.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**130930.**	**24541.**	**5981.7**	**8679.0**
Stddev	270.	88.	18.9	21.3
%RSD	.20658	.35708	.31554	.24537
#1	130630.	24554.	5995.3	8700.4
#2	131160.	24448.	5989.6	8678.6
#3	130990.	24622.	5960.1	8657.9

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 15:17:56 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0000**	**.0000**	**-.0002**	**.0003**	**.0002**	**-.0000**	**-.0001**	**-.0002**
Stddev	.0003	.0001	.0003	.0002	.0001	.0002	.0000	.0002	.0001
%RSD	122.4	835.4	2808.	108.9	26.98	107.8	195.0	376.4	53.96
#1	.0000	.0000	-.0003	-.0003	.0002	.0003	-.0001	-.0002	-.0002
#2	-.0002	-.0001	-.0000	.0000	.0003	.0004	-.0000	-.0002	-.0001
#3	-.0005	.0000	.0003	-.0003	.0003	-.0001	.0000	.0002	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0000**	**.0002**	**.0009**	**.0009**	**-.0011**	**.0008**	**-.0060**	**-.0036**
Stddev	.0002	.0001	.0008	.0006	.0001	.0006	.0012	.0034	.0008
%RSD	52.23	157.4	454.1	62.76	12.43	51.80	162.3	56.84	21.70
#1	-.0003	-.0000	.0011	.0006	.0009	-.0011	.0013	-.0064	-.0038
#2	-.0002	.0001	-.0001	.0016	.0008	-.0017	.0016	-.0024	-.0027
#3	-.0006	.0000	-.0005	.0006	.0011	-.0006	-.0006	-.0092	-.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**-.0103**	**.1393**	**.0981**	**.0031**	**.0003**	**-.0008**	**-.0003**	**.0001**
Stddev	.0015	.0086	.0044	.0071	.0009	.0004	.0012	.0001	.0000
%RSD	197.9	83.70	3.144	7.252	28.93	118.6	159.2	39.93	50.62
#1	-.0024	-.0051	.1427	.0929	.0041	.0006	.0006	-.0002	.0000
#2	-.0001	-.0055	.1344	.0952	.0031	-.0001	-.0017	-.0003	.0001
#3	.0003	-.0202	.1408	.1062	.0023	.0003	-.0012	-.0005	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 15:17:56 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0026**	**.0002**	**-.0004**	**.0013**	**-.0025**	**-.0048**
Stddev	.0004	.0012	.0001	.0006	.0003	.0010	.0005
%RSD	350.1	45.80	77.94	155.8	25.80	38.64	9.443
#1	.0005	.0039	.0003	-.0010	.0012	-.0015	-.0047
#2	-.0003	.0022	.0001	.0002	.0017	-.0035	-.0054
#3	.0001	.0017	.0000	-.0005	.0011	-.0026	-.0045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144930.**	**25925.**	**6515.9**	**9942.2**
Stddev	843.	146.	7.8	12.6
%RSD	.58173	.56269	.11953	.12660
#1	144010.	26086.	6523.5	9955.5
#2	145130.	25889.	6507.9	9940.8
#3	145660.	25801.	6516.4	9930.5

Zoom In Zoom Out

Sample Name: MP14334-SD1 Acquired: 4/22/2019 15:22:51 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0422**	**.0002**	**.0002**	**-.0018**	**.0025**	**.0167**	**.0911**	**.0036**	**-.0018**
Stddev	.0017	.0004	.0003	.0005	.0022	.0021	.0001	.0003	.0011
%RSD	4.119	203.4	160.5	27.93	86.36	12.50	.0872	7.075	60.11
#1	.0416	.0006	.0003	-.0013	.0040	.0163	.0912	.0039	-.0025
#2	.0408	-.0000	.0004	-.0023	.0000	.0189	.0910	.0035	-.0006
#3	.0442	-.0000	-.0002	-.0017	.0036	.0148	.0911	.0035	-.0023

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0048**	**.0567**	**.0077**	**.0020**	**.0063**	**-.0086**	**.0061**	**.6470**	**39.48**
Stddev	.0020	.0007	.0027	.0041	.0026	.0082	.0052	.0040	.09
%RSD	42.23	1.254	35.30	201.6	42.33	95.42	85.02	.6155	.2273
#1	.0058	.0574	.0088	.0052	.0087	-.0174	.0096	.6441	39.49
#2	.0062	.0566	.0098	-.0025	.0034	-.0069	.0001	.6454	39.57
#3	.0025	.0560	.0047	.0033	.0066	-.0013	.0086	.6515	39.39

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.861**	**2.003**	**3.897**	**122.3**	**.0691**	**.0070**	**7.120**	**-.0006**	**.2194**
Stddev	.005	.069	.324	.1	.0013	.0006	.011	.0008	.0008
%RSD	.2804	3.458	8.311	.0572	1.953	8.277	.1523	132.1	.3786
#1	1.864	2.003	3.550	122.4	.0705	.0064	7.108	-.0014	.2189
#2	1.855	2.072	4.192	122.3	.0678	.0076	7.129	.0002	.2203
#3	1.863	1.933	3.948	122.4	.0689	.0071	7.122	-.0007	.2189

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0152**	**.0157**	**.0014**	**5.395**	**.0039**	**-.0040**	**.2173**
Stddev	.0016	.0013	.0005	.030	.0072	.0090	.0043
%RSD	10.42	8.129	37.18	.5564	184.5	223.7	1.960
#1	.0166	.0151	.0008	5.429	.0112	-.0036	.2179
#2	.0135	.0147	.0015	5.385	-.0033	.0048	.2212
#3	.0156	.0171	.0018	5.372	.0039	-.0132	.2127

Zoom In Zoom Out

Sample Name: MP14334-SD1 Acquired: 4/22/2019 15:22:51 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142550.**	**26083.**	**6448.6**	**9547.6**
Stddev	876.	72.	16.2	26.0
%RSD	.61473	.27793	.25129	.27185
#1	143380.	26092.	6448.7	9551.6
#2	141630.	26007.	6432.3	9519.9
#3	142620.	26151.	6464.7	9571.4

Zoom In Zoom Out

Sample Name: jc86390-1 Acquired: 4/22/2019 15:27:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0000**	**-.0001**	**-.0002**	**.0007**	**.0010**	**.0005**	**.0003**	**-.0002**
Stddev	.0002	.0000	.0002	.0001	.0002	.0003	.0000	.0001	.0002
%RSD	98.45	315.0	155.5	50.00	24.91	25.04	6.932	40.86	99.22
#1	.0003	-.0000	.0000	-.0002	.0009	.0007	.0004	.0002	.0000
#2	.0004	-.0000	-.0003	-.0004	.0008	.0011	.0005	.0003	-.0003
#3	-.0000	.0000	-.0001	-.0001	.0005	.0012	.0005	.0005	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0100**	**.0001**	**-.0000**	**.0003**	**-.0012**	**.0005**	**.0176**	**.1319**
Stddev	.0004	.0001	.0003	.0005	.0008	.0006	.0009	.0069	.0009
%RSD	97.01	1.017	388.8	2248.	236.9	53.04	169.0	39.32	.6542
#1	-.0008	.0099	.0004	-.0003	.0001	-.0013	.0016	.0097	.1326
#2	-.0000	.0101	.0001	-.0003	.0012	-.0005	-.0002	.0226	.1310
#3	-.0004	.0099	-.0002	.0005	-.0003	-.0017	.0002	.0206	.1323

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0316**	**.0218**	**.1079**	**.1692**	**.0031**	**.0004**	**.0581**	**-.0008**	**.0008**
Stddev	.0016	.0128	.0381	.0072	.0003	.0004	.0014	.0004	.0001
%RSD	4.925	58.74	35.27	4.226	9.985	84.20	2.482	50.92	9.056
#1	.0308	.0362	.0787	.1610	.0030	.0000	.0596	-.0005	.0009
#2	.0306	.0119	.1510	.1730	.0028	.0007	.0579	-.0007	.0009
#3	.0334	.0172	.0941	.1737	.0034	.0006	.0567	-.0013	.0008

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0015**	**.0002**	**.0315**	**.0004**	**-.0004**	**.0023**
Stddev	.0003	.0014	.0002	.0019	.0013	.0008	.0011
%RSD	71.08	93.99	90.02	5.924	330.3	239.2	47.14
#1	.0007	.0001	.0001	.0303	-.0004	-.0002	.0013
#2	.0003	.0015	.0004	.0306	.0019	.0004	.0035
#3	.0002	.0029	.0001	.0337	-.0004	-.0012	.0022

Zoom In Zoom Out

Sample Name: jc86390-1 Acquired: 4/22/2019 15:27:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147040.**	**26433.**	**6597.9**	**10033.**
Stddev	890.	103.	10.9	10.
%RSD	.60550	.38815	.16463	.09998
#1	146850.	26336.	6585.6	10024.
#2	146250.	26420.	6601.8	10030.
#3	148010.	26541.	6606.2	10044.

Zoom In Zoom Out

Sample Name: jc86512-8 Acquired: 4/22/2019 15:33:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0038**	**.0000**	**-.0000**	**-.0003**	**.0007**	**.0014**	**.0023**	**.0001**	**.0001**
Stddev	.0002	.0000	.0002	.0004	.0003	.0007	.0000	.0001	.0004
%RSD	4.123	74.44	3624.	130.5	37.68	50.27	1.596	68.36	378.1
#1	.0040	.0000	.0001	-.0000	.0009	.0008	.0023	.0000	.0005
#2	.0037	.0001	-.0003	-.0001	.0004	.0022	.0023	.0001	-.0003
#3	.0038	.0000	.0001	-.0008	.0007	.0013	.0023	.0002	.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0046**	**-.0011**	**-.0003**	**.0001**	**-.0003**	**-.0000**	**.0049**	**58.46**
Stddev	.0002	.0000	.0015	.0009	.0009	.0022	.0009	.0095	.16
%RSD	232.4	.2230	130.6	286.8	1375.	840.6	2316.	192.9	.2759
#1	.0001	.0046	-.0001	-.0010	.0008	.0014	.0010	.0069	58.32
#2	.0002	.0046	-.0028	-.0006	.0003	-.0028	-.0009	.0132	58.43
#3	-.0001	.0046	-.0005	.0007	-.0010	.0006	-.0002	-.0054	58.64

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0056**	**6.630**	**1.591**	**53.13**	**.0766**	**.0006**	**8.782**	**-.0018**	**.2281**
Stddev	.0013	.012	.053	.03	.0010	.0004	.009	.0007	.0006
%RSD	23.38	.1740	3.304	.0652	1.274	63.56	.1008	38.06	.2542
#1	.0068	6.631	1.640	53.13	.0770	.0007	8.792	-.0010	.2275
#2	.0042	6.618	1.599	53.10	.0755	.0008	8.775	-.0021	.2282
#3	.0059	6.641	1.535	53.17	.0772	.0002	8.779	-.0022	.2287

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0018**	**-.0005**	**21.22**	**-.0012**	**.0055**	**.0233**
Stddev	.0002	.0007	.0001	.10	.0008	.0020	.0004
%RSD	8791.	39.72	21.58	.4744	61.94	37.00	1.882
#1	.0002	.0025	-.0006	21.32	-.0016	.0032	.0238
#2	-.0002	.0011	-.0004	21.12	-.0004	.0071	.0232
#3	.0000	.0017	-.0006	21.22	-.0017	.0062	.0229

Zoom In Zoom Out

Sample Name: jc86512-8 Acquired: 4/22/2019 15:33:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**140680.**	**26153.**	**6327.1**	**9213.8**
Stddev	423.	74.	11.9	18.8
%RSD	.30078	.28129	.18769	.20456
#1	140950.	26191.	6339.4	9233.9
#2	140190.	26200.	6315.8	9196.6
#3	140890.	26068.	6326.1	9210.8

Zoom In Zoom Out

Sample Name: jc86512-10 Acquired: 4/22/2019 15:38:06 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0067**	**-.0000**	**.0001**	**.0001**	**.0010**	**.0015**	**.0002**	**.0003**	**-.0003**
Stddev	.0002	.0000	.0001	.0001	.0001	.0003	.0000	.0003	.0004
%RSD	2.509	39.78	77.05	177.6	9.613	17.90	13.18	122.8	128.0
#1	.0069	-.0000	.0001	-.0000	.0010	.0012	.0001	.0007	-.0002
#2	.0067	-.0000	.0000	.0002	.0010	.0015	.0002	.0001	-.0008
#3	.0067	-.0000	.0002	.0000	.0011	.0017	.0002	.0001	-.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0016**	**-.0005**	**.0005**	**-.0000**	**-.0021**	**-.0004**	**.0017**	**42.80**
Stddev	.0002	.0001	.0006	.0005	.0007	.0014	.0004	.0019	.05
%RSD	84.78	5.906	109.8	102.0	1787.	64.51	117.1	111.1	.1282
#1	-.0001	.0016	.0001	.0007	-.0007	-.0012	.0001	.0008	42.75
#2	-.0004	.0014	-.0008	.0010	-.0002	-.0037	-.0004	.0038	42.79
#3	-.0001	.0016	-.0009	-.0001	.0008	-.0014	-.0008	.0004	42.86

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0064**	**22.50**	**1.770**	**62.98**	**.0403**	**.0012**	**4.211**	**-.0019**	**.2614**
Stddev	.0017	.03	.019	.05	.0004	.0002	.007	.0002	.0001
%RSD	27.18	.1203	1.076	.0730	.8708	16.63	.1729	8.949	.0489
#1	.0062	22.47	1.748	63.00	.0401	.0013	4.214	-.0020	.2613
#2	.0082	22.49	1.777	63.01	.0400	.0014	4.215	-.0017	.2615
#3	.0047	22.53	1.785	62.92	.0407	.0010	4.202	-.0020	.2614

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0017**	**-.0001**	**5.270**	**.0024**	**.0009**	**.0347**
Stddev	.0001	.0006	.0002	.013	.0014	.0020	.0031
%RSD	27.77	33.31	107.5	.2401	57.44	225.7	9.067
#1	-.0003	.0012	-.0003	5.274	.0036	.0027	.0381
#2	-.0002	.0016	-.0001	5.281	.0026	-.0012	.0342
#3	-.0001	.0023	-.0001	5.256	.0009	.0011	.0319

Zoom In Zoom Out

Sample Name: jc86512-10 Acquired: 4/22/2019 15:38:06 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**139570.**	**26084.**	**6289.6**	**9130.0**
Stddev	796.	118.	11.1	6.2
%RSD	.57005	.45061	.17710	.06745
#1	139100.	26084.	6282.4	9123.8
#2	140480.	26202.	6284.0	9130.1
#3	139120.	25967.	6302.5	9136.1

Zoom In Zoom Out

Sample Name: mp14245-mb1conf Acquired: 4/22/2019 15:43:10 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0000**	**.0000**	**-.0002**	**.0005**	**.0002**	**.0000**	**.0001**	**.0001**
Stddev	.0001	.0000	.0001	.0001	.0001	.0002	.0000	.0004	.0005
%RSD	84.88	754.1	233.3	56.86	17.82	141.4	60.45	437.8	498.7
#1	-.0003	-.0000	.0000	-.0002	.0004	-.0000	.0000	.0004	.0005
#2	-.0000	-.0000	-.0000	-.0002	.0006	.0004	.0000	-.0003	-.0004
#3	-.0001	.0000	.0001	-.0004	.0004	.0001	.0001	.0002	.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0015**	**-.0003**	**.0007**	**.0002**	**-.0007**	**-.0003**	**.0032**	**-.0000**
Stddev	.0004	.0001	.0006	.0010	.0003	.0001	.0011	.0051	.0010
%RSD	94.53	3.829	216.8	146.3	116.4	16.15	348.4	158.1	4784.
#1	-.0009	.0015	-.0001	.0010	.0005	-.0008	-.0015	.0035	-.0002
#2	-.0003	.0016	-.0009	-.0004	.0004	-.0006	.0006	-.0020	.0011
#3	-.0001	.0015	.0002	.0014	-.0001	-.0008	-.0001	.0081	-.0010

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023**	**.0015**	**.0904**	**.1213**	**.0013**	**.0003**	**.0106**	**-.0005**	**-.0000**
Stddev	.0014	.0092	.0304	.0029	.0008	.0003	.0005	.0000	.0001
%RSD	61.87	603.7	33.67	2.374	61.58	95.91	4.263	6.165	252.0
#1	.0009	-.0055	.1237	.1227	.0016	-.0000	.0109	-.0004	.0000
#2	.0037	-.0018	.0832	.1180	.0004	.0005	.0101	-.0005	-.0001
#3	.0024	.0119	.0642	.1231	.0019	.0004	.0108	-.0005	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0022**	**.0001**	**.0020**	**.0021**	**.0006**	**-.0040**
Stddev	.0002	.0004	.0002	.0032	.0007	.0005	.0029
%RSD	8884.	16.06	236.6	159.1	31.83	85.29	72.11
#1	.0001	.0022	.0001	.0005	.0024	.0011	-.0012
#2	.0001	.0019	-.0001	-.0001	.0014	.0000	-.0070
#3	-.0002	.0026	.0003	.0058	.0027	.0007	-.0040

Zoom In Zoom Out

Sample Name: mp14245-mb1conf Acquired: 4/22/2019 15:43:10 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146280.**	**26389.**	**6558.4**	**9969.5**
Stddev	647.	199.	18.0	18.9
%RSD	.44216	.75503	.27418	.18930
#1	147000.	26227.	6540.9	9955.1
#2	146110.	26611.	6557.3	9962.5
#3	145750.	26329.	6576.9	9990.8

Zoom In Zoom Out

Sample Name: jc86398-1 Acquired: 4/22/2019 15:48:16 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 200.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0541**	**-.0811**	**-.0118**	**-.0159**	**-.1170**	**.0154**	**.0787**	**2.402**	**-.1474**
Stddev	.0453	.0018	.0197	.0250	.0665	.0515	.0076	.024	.0885
%RSD	83.74	2.188	166.8	157.7	56.80	334.2	9.612	.9960	60.04
#1	.0685	-.0810	.0107	-.0447	-.1592	.0093	.0789	2.420	-.2029
#2	.0904	-.0829	-.0260	-.0024	-.0404	-.0328	.0862	2.411	-.0453
#3	.0033	-.0793	-.0201	-.0004	-.1514	.0697	.0711	2.375	-.1941

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**907.1**	**1.011**	**.0400**	**.1808**	**.0251**	**.2150**	**.0384**	**2.422**	**458.1**
Stddev	.5	.012	.3453	.2926	.2103	.0478	.2347	.526	1.7
%RSD	.0525	1.135	862.8	161.8	838.5	22.22	611.1	21.72	.3634
#1	907.1	1.006	-.3090	-.0349	-.0690	.1739	-.2053	2.263	458.3
#2	907.6	1.024	.0475	.0634	-.1218	.2674	.0577	3.009	459.7
#3	906.6	1.003	.3815	.5139	.2659	.2036	.2628	1.994	456.4

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7574**	**1604.**	**149.1**	**4574.**	**.6920**	**10.09**	**-26.26**	**-.0208**	**4.024**
Stddev	.0480	8.	8.3	11.	.0762	.03	.17	.0873	.008
%RSD	6.341	.4838	5.593	.2308	11.02	.3221	.6628	418.7	.1965
#1	.8126	1604.	157.7	4573.	.7324	10.11	-26.40	.0799	4.024
#2	.7338	1611.	141.1	4585.	.6041	10.05	-26.31	-.0705	4.032
#3	.7257	1596.	148.5	4564.	.7396	10.10	-26.07	-.0719	4.016

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0072**	**.4787**	**.0294**	**4870.**	**.3021**	**-.4762**	**2.682**
Stddev	.0642	.4826	.0411	13.	.3030	.4781	.494
%RSD	893.4	100.8	140.1	.2759	100.3	100.4	18.40
#1	.0528	.0868	.0359	4879.	.5703	-.7999	2.195
#2	.0006	.3315	-.0146	4877.	-.0266	-.7015	2.669
#3	-.0749	1.018	.0669	4855.	.3624	.0729	3.182

Zoom In Zoom Out

Sample Name: jc86398-1 Acquired: 4/22/2019 15:48:16 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 200.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142190.**	**25687.**	**6419.6**	**9520.4**
Stddev	511.	74.	20.6	13.6
%RSD	.35910	.28982	.32108	.14329
#1	142750.	25602.	6411.3	9513.6
#2	141770.	25714.	6404.4	9511.6
#3	142040.	25744.	6443.0	9536.1

Zoom In Zoom Out

Sample Name: jc86398-2 Acquired: 4/22/2019 15:53:19 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1159**	**-.0204**	**-.0022**	**.0044**	**-.0400**	**.0046**	**.0176**	**.7367**	**-.0326**
Stddev	.0072	.0027	.0023	.0017	.0128	.0086	.0018	.0071	.0204
%RSD	6.252	13.40	103.9	38.90	31.98	187.0	10.44	.9685	62.42
#1	.1206	-.0234	.0004	.0028	-.0287	.0008	.0175	.7408	-.0243
#2	.1076	-.0181	-.0034	.0062	-.0374	-.0015	.0195	.7408	-.0558
#3	.1196	-.0196	-.0036	.0041	-.0539	.0145	.0158	.7285	-.0177

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**352.5**	**.2935**	**.0401**	**.0245**	**-.0236**	**.0350**	**-.0000**	**3.809**	**197.9**
Stddev	.3	.0067	.0065	.0502	.0397	.0237	.0820	.294	.3
%RSD	.0948	2.282	16.12	205.2	168.4	67.90	249600.	7.706	.1370
#1	352.1	.3012	.0327	.0184	-.0681	.0168	-.0126	3.818	198.1
#2	352.7	.2904	.0443	.0774	-.0110	.0262	.0875	4.099	198.0
#3	352.7	.2889	.0434	-.0225	.0083	.0618	-.0750	3.512	197.6

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.397**	**829.7**	**57.32**	**1920.**	**.2273**	**4.548**	**-5.572**	**.0222**	**1.900**
Stddev	.106	2.1	1.74	3.	.0375	.018	.088	.0081	.004
%RSD	3.106	.2573	3.040	.1377	16.50	.4039	1.583	36.28	.1832
#1	3.518	831.3	55.33	1923.	.2528	4.568	-5.521	.0264	1.898
#2	3.353	830.6	58.58	1919.	.1842	4.531	-5.522	.0129	1.904
#3	3.321	827.3	58.04	1919.	.2448	4.544	-5.674	.0273	1.897

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0339**	**.1461**	**.0134**	**2258.**	**.0506**	**.0398**	**1.343**
Stddev	.0158	.0467	.0099	1.	.0811	.0438	.072
%RSD	46.51	31.98	74.14	.0327	160.3	109.9	5.380
#1	.0184	.1320	.0193	2259.	.1133	-.0089	1.295
#2	.0499	.1081	.0019	2258.	.0796	.0759	1.308
#3	.0333	.1983	.0189	2258.	-.0410	.0525	1.426

Zoom In Zoom Out

Sample Name: jc86398-2 Acquired: 4/22/2019 15:53:19 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**140220.**	**25719.**	**6369.3**	**9366.6**
Stddev	1113.	55.	14.0	23.7
%RSD	.79356	.21398	.22046	.25306
#1	141440.	25675.	6353.1	9340.5
#2	139950.	25781.	6378.1	9386.6
#3	139260.	25702.	6376.7	9372.8

Zoom In Zoom Out

Sample Name: jc86402-1 Acquired: 4/22/2019 15:58:22 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1746**	**.0001**	**.0003**	**.0021**	**.0031**	**.0154**	**.5485**	**.0052**	**-.0003**
Stddev	.0006	.0000	.0002	.0002	.0004	.0006	.0005	.0005	.0004
%RSD	.3507	36.47	57.28	7.668	12.17	3.665	.0896	8.819	130.7
#1	.1740	.0001	.0001	.0021	.0034	.0156	.5490	.0048	.0001
#2	.1752	.0001	.0003	.0019	.0031	.0157	.5485	.0057	-.0005
#3	.1744	.0001	.0005	.0022	.0027	.0147	.5480	.0050	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0035**	**.0193**	**.0024**	**.0005**	**.0086**	**-.0015**	**.0004**	**.4787**	**106.6**
Stddev	.0003	.0000	.0014	.0007	.0002	.0023	.0009	.0056	1.6
%RSD	9.956	.1187	58.00	138.9	2.142	152.2	236.9	1.161	1.462
#1	.0033	.0192	.0028	-.0002	.0085	-.0005	.0013	.4725	104.9
#2	.0033	.0193	.0036	.0012	.0088	.0001	.0003	.4805	108.1
#3	.0039	.0193	.0009	.0004	.0084	-.0042	-.0005	.4831	106.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.460**	**11.41**	**14.52**	**97.24**	**.0828**	**.0045**	**10.47**	**-.0022**	**.7733**
Stddev	.002	.02	.02	.10	.0005	.0002	.01	.0001	.0005
%RSD	.1077	.1556	.1238	.1044	.6572	3.990	.1236	3.320	.0701
#1	1.459	11.39	14.52	97.20	.0822	.0046	10.47	-.0023	.7734
#2	1.460	11.41	14.54	97.36	.0832	.0043	10.48	-.0022	.7738
#3	1.462	11.42	14.51	97.17	.0830	.0045	10.45	-.0022	.7727

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0160**	**.0014**	**-.0002**	**8.613**	**.0001**	**.0101**	**1.636**
Stddev	.0001	.0009	.0001	.020	.0028	.0007	.011
%RSD	.6107	65.30	39.33	.2328	2756.	6.997	.6653
#1	.0159	.0012	-.0001	8.616	-.0008	.0093	1.641
#2	.0159	.0006	-.0002	8.591	.0032	.0105	1.624
#3	.0161	.0024	-.0002	8.631	-.0021	.0106	1.645

Zoom In Zoom Out

Sample Name: jc86402-1 Acquired: 4/22/2019 15:58:22 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**138600.**	**26208.**	**6238.7**	**8929.1**
Stddev	354.	97.	9.4	20.6
%RSD	.25550	.36927	.15044	.23054
#1	138830.	26287.	6241.2	8944.2
#2	138190.	26236.	6246.5	8937.5
#3	138770.	26100.	6228.3	8905.7

Zoom In Zoom Out

Sample Name: mp14423-mb1 1 Acquired: 4/22/2019 16:03:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0000**	**-.0002**	**-.0001**	**-.0000**	**.0008**	**.0006**	**.0003**	**-.0001**
Stddev	.0000	.0000	.0001	.0002	.0001	.0004	.0000	.0001	.0003
%RSD	9.824	43.90	50.11	217.7	435.5	54.40	6.299	25.23	307.9
#1	-.0004	-.0001	-.0001	-.0000	-.0001	.0003	.0005	.0003	-.0005
#2	-.0004	-.0000	-.0003	.0000	-.0001	.0010	.0006	.0004	.0001
#3	-.0005	-.0000	-.0004	-.0003	.0001	.0010	.0006	.0002	.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0015**	**.0002**	**.0007**	**.0007**	**-.0015**	**-.0003**	**-.0115**	**.0019**
Stddev	.0003	.0000	.0013	.0004	.0007	.0006	.0013	.0111	.0024
%RSD	53.67	2.712	625.2	57.02	108.6	39.37	401.4	96.63	125.7
#1	-.0008	.0015	.0011	.0012	-.0001	-.0010	-.0007	-.0050	-.0008
#2	-.0003	.0015	-.0012	.0005	.0014	-.0013	-.0015	-.0052	.0027
#3	-.0004	.0015	.0008	.0004	.0007	-.0021	.0012	-.0243	.0039

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0004**	**.0608**	**.0628**	**-.0001**	**-.0002**	**.0025**	**-.0010**	**.0000**
Stddev	.0008	.0190	.0262	.0134	.0003	.0001	.0011	.0002	.0001
%RSD	201.6	5028.	43.05	21.39	288.3	45.65	43.92	17.10	1059.
#1	-.0009	-.0223	.0625	.0647	-.0005	-.0002	.0021	-.0011	-.0001
#2	.0005	.0094	.0861	.0751	-.0001	-.0001	.0038	-.0010	.0001
#3	-.0009	.0118	.0338	.0485	.0002	-.0003	.0017	-.0008	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0009**	**.0000**	**.0089**	**.0016**	**-.0012**	**-.0112**
Stddev	.0006	.0009	.0002	.0037	.0007	.0019	.0018
%RSD	1756.	92.78	1046.	41.11	42.94	164.9	16.00
#1	-.0002	-.0008	.0002	.0124	.0024	-.0006	-.0133
#2	-.0005	-.0002	-.0000	.0051	.0015	-.0033	-.0100
#3	.0006	-.0019	-.0001	.0092	.0010	.0004	-.0103

Zoom In Zoom Out

Sample Name: mp14423-mb1 1 Acquired: 4/22/2019 16:03:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**149390.**	**26787.**	**6711.1**	**10343.**
Stddev	432.	125.	15.0	22.
%RSD	.28949	.46780	.22373	.20898
#1	149800.	26682.	6719.7	10364.
#2	149430.	26753.	6693.7	10321.
#3	148940.	26925.	6719.7	10343.

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 16:08:46 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.052**	**2.020**	**2.017**	**2.056**	**2.018**	**2.011**	**2.068**	**2.065**	**.2504**
Stddev	.004	.004	.010	.005	.003	.002	.003	.006	.0002
%RSD	.2066	.2192	.5012	.2282	.1455	.1024	.1440	.2824	.0654
#1	2.057	2.025	2.028	2.061	2.015	2.009	2.064	2.071	.2503
#2	2.051	2.018	2.016	2.054	2.020	2.012	2.068	2.062	.2506
#3	2.049	2.017	2.008	2.052	2.018	2.013	2.070	2.060	.2504
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.018**	**2.045**	**2.026**	**2.110**	**2.052**	**2.030**	**2.027**	**39.96**	**40.14**
Stddev	.003	.011	.010	.011	.008	.009	.009	.06	.10
%RSD	.1526	.5126	.4996	.5074	.3851	.4313	.4379	.1599	.2504
#1	2.015	2.057	2.036	2.118	2.062	2.039	2.037	40.02	40.22
#2	2.021	2.042	2.027	2.115	2.047	2.029	2.024	39.98	40.17
#3	2.019	2.036	2.016	2.098	2.048	2.022	2.020	39.90	40.03
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.67**	**40.00**	**40.47**	**41.28**	**2.053**	**2.047**	**5.292**	**2.057**	**2.049**
Stddev	.07	.13	.13	.06	.010	.010	.027	.014	.001
%RSD	.1841	.3134	.3327	.1544	.4668	.4895	.5070	.6940	.0535
#1	39.72	40.11	40.49	41.31	2.063	2.058	5.319	2.072	2.049
#2	39.71	40.02	40.60	41.33	2.052	2.046	5.292	2.056	2.050
#3	39.59	39.86	40.33	41.21	2.044	2.038	5.266	2.043	2.048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 16:08:46 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.049**	**2.007**	**2.061**	**2.027**	**2.057**	**1.997**	F **2.223**
Stddev	.002	.010	.004	.012	.009	.003	.017
%RSD	.1172	.4781	.2055	.6139	.4144	.1527	.7671
#1	2.046	2.016	2.056	2.039	2.065	2.000	2.235
#2	2.050	2.007	2.064	2.030	2.058	1.995	2.230
#3	2.050	1.997	2.063	2.014	2.048	1.996	2.203
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value							2.000
Range							10.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**137010.**	**25737.**	**6275.3**	**9051.5**
Stddev	226.	280.	45.1	46.7
%RSD	.16459	1.0865	.71894	.51551
#1	136830.	25548.	6226.4	9000.1
#2	137260.	25604.	6284.2	9063.3
#3	136940.	26058.	6315.3	9091.1

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 16:13:48 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0004**	**.0003**	**-.0001**	**.0006**	**.0009**	**.0004**	**.0003**	**-.0001**
Stddev	.0001	.0001	.0001	.0002	.0002	.0002	.0000	.0002	.0002
%RSD	51.29	27.39	30.39	203.8	24.74	25.32	12.83	66.29	162.9
#1	.0001	.0003	.0004	.0001	.0008	.0011	.0003	.0005	.0001
#2	.0001	.0005	.0002	-.0002	.0005	.0009	.0004	.0003	-.0002
#3	.0002	.0004	.0003	-.0001	.0006	.0007	.0004	.0001	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0003**	**.0000**	**.0014**	**-.0000**	**-.0001**	**.0025**	**-.0024**	**.0041**
Stddev	.0003	.0001	.0007	.0007	.0008	.0008	.0007	.0028	.0055
%RSD	184.1	43.83	1651.	52.08	2119.	596.8	28.77	117.3	132.9
#1	.0001	.0002	.0005	.0006	-.0003	.0007	.0022	-.0053	-.0019
#2	.0005	.0003	.0003	.0020	.0009	-.0002	.0020	.0003	.0089
#3	-.0001	.0005	-.0008	.0017	-.0007	-.0009	.0034	-.0023	.0053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0068**	**-.0067**	**.1231**	**.1061**	**.0024**	**.0004**	**.0005**	**.0002**	**.0004**
Stddev	.0032	.0049	.0308	.0071	.0007	.0001	.0004	.0003	.0001
%RSD	47.40	73.16	25.01	6.691	27.59	28.89	73.96	197.0	28.15
#1	.0033	-.0011	.1307	.1013	.0031	.0005	.0007	.0000	.0003
#2	.0097	-.0102	.1493	.1143	.0018	.0005	.0001	-.0001	.0006
#3	.0074	-.0089	.0892	.1028	.0024	.0003	.0008	.0006	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 16:13:48 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0007**	**.0004**	**.0002**	**.0009**	**-.0009**	**-.0038**
Stddev	.0006	.0001	.0000	.0005	.0013	.0013	.0015
%RSD	87.90	18.76	11.77	275.6	156.1	143.7	38.38
#1	.0011	.0006	.0003	.0004	.0007	.0004	-.0022
#2	.0008	.0008	.0004	-.0004	.0023	-.0009	-.0049
#3	.0000	.0008	.0004	.0004	-.0004	-.0023	-.0044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144610.**	**26055.**	**6498.6**	**9929.4**
Stddev	253.	93.	14.1	20.5
%RSD	.17521	.35629	.21650	.20683
#1	144810.	26135.	6497.3	9927.8
#2	144330.	25953.	6485.3	9909.7
#3	144700.	26077.	6513.3	9950.7

Zoom In Zoom Out

Sample Name: mp14423-b1 1 Acquired: 4/22/2019 16:18:56 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.023**	**1.982**	**2.049**	**2.025**	**1.976**	**1.984**	**2.029**	**2.036**	**.0844**
Stddev	.003	.002	.004	.002	.002	.000	.010	.003	.0003
%RSD	.1254	.1076	.2097	.1141	.1036	.0207	.4855	.1496	.3507
#1	2.026	1.984	2.044	2.023	1.978	1.984	2.037	2.034	.0846
#2	2.021	1.979	2.051	2.026	1.974	1.984	2.018	2.035	.0841
#3	2.023	1.982	2.052	2.027	1.976	1.984	2.032	2.040	.0846

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.972**	**2.040**	**2.065**	**2.150**	**2.050**	**2.079**	**2.099**	**25.06**	**25.13**
Stddev	.002	.003	.009	.009	.002	.007	.005	.04	.03
%RSD	.1215	.1511	.4292	.3932	.0899	.3430	.2357	.1432	.1126
#1	1.972	2.037	2.055	2.141	2.049	2.071	2.096	25.10	25.16
#2	1.969	2.043	2.071	2.157	2.050	2.081	2.098	25.05	25.12
#3	1.974	2.040	2.068	2.153	2.052	2.085	2.105	25.04	25.11

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.84**	**25.28**	**25.43**	**26.26**	**2.072**	**2.058**	**.0054**	**2.108**	**2.020**
Stddev	.04	.06	.06	.05	.005	.006	.0013	.004	.001
%RSD	.1616	.2185	.2234	.1788	.2480	.2795	24.30	.1981	.0413
#1	24.88	25.33	25.49	26.29	2.067	2.051	.0067	2.104	2.021
#2	24.85	25.29	25.41	26.29	2.073	2.062	.0041	2.112	2.019
#3	24.80	25.22	25.38	26.21	2.077	2.060	.0055	2.108	2.020

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.034**	**1.958**	**2.050**	**.0225**	**.1252**	**-.0039**	**2.097**
Stddev	.003	.009	.002	.0019	.0020	.0028	.009
%RSD	.1691	.4836	.1186	8.378	1.619	71.72	.4275
#1	2.034	1.947	2.049	.0206	.1228	-.0069	2.092
#2	2.031	1.963	2.047	.0225	.1265	-.0014	2.108
#3	2.038	1.963	2.052	.0244	.1262	-.0033	2.092

Zoom In Zoom Out

Sample Name: mp14423-b1 1 Acquired: 4/22/2019 16:18:56 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143070.**	**26254.**	**6470.6**	**9466.6**
Stddev	152.	123.	11.5	10.2
%RSD	.10597	.46711	.17725	.10804
#1	143010.	26234.	6481.1	9477.5
#2	142960.	26143.	6458.4	9457.1
#3	143240.	26386.	6472.4	9465.2

Zoom In Zoom Out

Sample Name: jc86634-6 Acquired: 4/22/2019 16:23:55 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0000**	**-.0001**	**-.0002**	**.0004**	**.0025**	**.0022**	**.0015**	**-.0003**
Stddev	.0002	.0001	.0001	.0002	.0002	.0004	.0000	.0001	.0002
%RSD	47.85	326.5	67.00	120.0	59.84	15.17	1.317	6.984	72.80
#1	.0005	.0001	-.0001	-.0004	.0007	.0026	.0022	.0016	-.0004
#2	.0002	.0000	-.0000	-.0000	.0003	.0021	.0021	.0014	-.0000
#3	.0005	-.0000	-.0002	-.0001	.0002	.0029	.0022	.0015	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0020**	**.0002**	**.0010**	**.0004**	**-.0041**	**-.0007**	**-.0061**	**.1480**
Stddev	.0002	.0001	.0011	.0009	.0004	.0005	.0012	.0105	.0007
%RSD	87.36	5.574	666.9	91.27	102.0	10.99	162.5	172.3	.4779
#1	-.0001	.0021	.0015	.0020	.0001	-.0044	-.0010	-.0170	.1473
#2	-.0001	.0019	-.0005	.0007	.0009	-.0036	-.0017	-.0053	.1479
#3	-.0005	.0020	-.0004	.0003	.0002	-.0044	.0006	.0040	.1487

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.0597**	**.0610**	**.5658**	**.0059**	**.0003**	**.3957**	**-.0009**	**.0009**
Stddev	.0008	.0023	.0250	.0106	.0003	.0001	.0008	.0003	.0001
%RSD	68.47	3.909	40.93	1.865	5.194	22.16	.2065	32.81	7.759
#1	.0018	.0575	.0350	.5540	.0063	.0004	.3951	-.0010	.0009
#2	.0013	.0621	.0631	.5743	.0058	.0003	.3954	-.0005	.0008
#3	.0003	.0596	.0848	.5692	.0058	.0003	.3966	-.0010	.0010

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0043**	**.0003**	**.0084**	**.0007**	**-.0037**	**.0050**
Stddev	.0001	.0015	.0001	.0016	.0007	.0012	.0024
%RSD	147.7	33.88	37.06	18.56	88.28	33.51	48.48
#1	-.0002	.0043	.0003	.0101	.0015	-.0038	.0027
#2	.0001	.0029	.0004	.0071	.0004	-.0048	.0075
#3	-.0002	.0058	.0002	.0081	.0004	-.0024	.0048

Zoom In Zoom Out

Sample Name: jc86634-6 Acquired: 4/22/2019 16:23:55 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147480.**	**26208.**	**6606.2**	**10188.**
Stddev	447.	56.	1.9	3.
%RSD	.30293	.21518	.02903	.02541
#1	147930.	26229.	6607.9	10191.
#2	147460.	26144.	6604.1	10187.
#3	147040.	26251.	6606.5	10187.

Zoom In Zoom Out

Sample Name: jc86634-6f Acquired: 4/22/2019 16:29:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0015**	**.0000**	**-.0000**	**-.0002**	**.0005**	**.0022**	**.0003**	**.0005**	**-.0002**
Stddev	.0002	.0000	.0002	.0001	.0002	.0001	.0000	.0002	.0002
%RSD	16.47	54.64	1348.	48.49	43.10	6.265	12.93	37.27	94.42
#1	.0017	.0000	-.0001	-.0001	.0003	.0022	.0003	.0006	-.0003
#2	.0016	.0001	-.0002	-.0003	.0008	.0021	.0003	.0006	.0000
#3	.0012	.0000	.0003	-.0002	.0005	.0024	.0003	.0003	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0049**	**.0015**	**.0009**	**-.0004**	**-.0013**	**.0007**	**.0011**	**.0419**
Stddev	.0001	.0001	.0009	.0004	.0004	.0017	.0020	.0054	.0015
%RSD	21.91	1.673	63.74	43.39	84.32	132.4	290.7	480.5	3.603
#1	-.0005	.0050	.0004	.0009	-.0007	-.0032	-.0001	-.0015	.0410
#2	-.0006	.0050	.0023	.0005	-.0000	-.0003	.0030	.0073	.0411
#3	-.0004	.0048	.0017	.0012	-.0006	-.0003	-.0008	-.0025	.0437

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0031**	**.0088**	**.0981**	**.2894**	**.0026**	**.0002**	**.1497**	**-.0003**	**.0016**
Stddev	.0002	.0122	.0293	.0110	.0004	.0001	.0036	.0006	.0000
%RSD	5.354	138.3	29.84	3.794	14.63	84.65	2.406	215.4	3.036
#1	.0030	.0079	.1232	.2804	.0028	.0003	.1536	.0004	.0016
#2	.0032	.0214	.1053	.3016	.0028	.0000	.1488	-.0008	.0017
#3	.0033	-.0029	.0660	.2861	.0022	.0002	.1466	-.0005	.0016

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0012**	**.0002**	**.0038**	**.0029**	**-.0037**	**.0032**
Stddev	.0003	.0002	.0002	.0010	.0003	.0003	.0037
%RSD	88.17	16.86	113.1	26.12	11.62	7.439	117.3
#1	.0000	.0010	-.0001	.0045	.0026	-.0035	-.0004
#2	.0004	.0012	.0003	.0027	.0028	-.0035	.0029
#3	.0007	.0014	.0003	.0043	.0032	-.0040	.0071

Zoom In Zoom Out

Sample Name: jc86634-6f Acquired: 4/22/2019 16:29:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**148400.**	**26992.**	**6537.1**	**10096.**
Stddev	3278.	683.	48.6	55.
%RSD	2.2088	2.5288	.74288	.54011
#1	145820.	27755.	6481.2	10034.
#2	147290.	26441.	6568.1	10137.
#3	152090.	26778.	6562.1	10118.

Zoom In Zoom Out

Sample Name: icsa 7 Acquired: 4/22/2019 16:34:07 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0001**	**-.0002**	**.0013**	**-.0001**	**-.0036**	**.0006**	**-.0002**	**.0031**
Stddev	.0002	.0001	.0001	.0003	.0002	.0002	.0002	.0003	.0006
%RSD	45.19	66.06	46.94	24.63	258.8	4.292	29.79	149.0	20.72
#1	.0007	.0001	-.0002	.0011	.0002	-.0035	.0006	.0002	.0036
#2	.0004	.0002	-.0003	.0012	-.0001	-.0038	.0004	-.0004	.0024
#3	.0003	.0000	-.0001	.0017	-.0003	-.0036	.0007	-.0005	.0033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**-.0012**	**.0006**	**-.0023**	**-.0013**	**.0000**	**-.0004**	**505.5**	**381.2**
Stddev	.0002	.0001	.0023	.0006	.0015	.0023	.0027	4.3	3.4
%RSD	26.31	4.847	369.1	26.13	113.0	66930.	628.0	.8464	.8843
#1	-.0008	-.0012	.0031	-.0027	.0002	.0026	-.0006	510.5	377.3
#2	-.0005	-.0011	-.0014	-.0027	-.0029	-.0012	-.0030	502.9	383.0
#3	-.0006	-.0012	.0002	-.0016	-.0013	-.0014	.0023	503.2	383.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**186.8**	**492.3**	**.4550**	**.2409**	**-.0004**	**.0010**	**.0033**	**-.0019**	**-.0003**
Stddev	1.2	1.3	.0415	.0171	.0013	.0006	.0015	.0009	.0000
%RSD	.6345	.2644	9.124	7.102	315.6	60.64	44.46	46.06	8.736
#1	186.0	490.9	.4408	.2258	-.0006	.0012	.0024	-.0025	-.0003
#2	186.2	492.6	.5017	.2372	-.0016	.0015	.0050	-.0009	-.0003
#3	188.1	493.5	.4224	.2595	.0009	.0003	.0025	-.0024	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: icsa 7 Acquired: 4/22/2019 16:34:07 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0017**	**.0068**	**-.0009**	**.0170**	**-.0028**	**-.0090**	**.0355**
Stddev	.0004	.0014	.0002	.0023	.0011	.0014	.0021
%RSD	20.93	19.95	19.40	13.72	38.59	15.58	5.780
#1	-.0014	.0057	-.0007	.0161	-.0040	-.0104	.0351
#2	-.0017	.0084	-.0008	.0197	-.0019	-.0076	.0337
#3	-.0021	.0065	-.0011	.0153	-.0024	-.0091	.0378
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**124000.**	**24752.**	**5752.1**	**8176.6**
Stddev	280.	89.	16.3	16.6
%RSD	.22614	.35774	.28290	.20300
#1	123800.	24843.	5749.9	8175.8
#2	124320.	24666.	5737.0	8160.5
#3	123870.	24748.	5769.3	8193.6

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/22/2019 16:39:29 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5192**	**.4916**	**1.005**	**.4891**	**.4884**	**.5010**	**.5111**	**.9712**	**1.134**
Stddev	.0015	.0018	.002	.0011	.0008	.0019	.0005	.0008	.002
%RSD	.2978	.3750	.1652	.2270	.1709	.3709	.1043	.0825	.2053
#1	.5189	.4914	1.004	.4880	.4885	.5029	.5115	.9703	1.136
#2	.5208	.4935	1.004	.4902	.4875	.5011	.5105	.9713	1.133
#3	.5178	.4898	1.007	.4891	.4891	.4992	.5112	.9719	1.131
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4972**	**.9524**	**1.068**	**.9710**	**.9551**	**1.052**	**1.075**	**507.1**	**366.1**
Stddev	.0004	.0012	.003	.0072	.0011	.004	.002	7.8	2.1
%RSD	.0761	.1249	.2414	.7457	.1191	.3390	.2268	1.543	.5712
#1	.4977	.9519	1.070	.9792	.9538	1.056	1.073	500.2	365.3
#2	.4970	.9515	1.069	.9683	.9557	1.050	1.075	505.6	368.4
#3	.4970	.9537	1.065	.9655	.9559	1.049	1.078	515.6	364.4
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**189.9**	**497.7**	**.3106**	**.1820**	**.4813**	**.4881**	**.5122**	**.4717**	**.5147**
Stddev	3.5	1.1	.0312	.0114	.0016	.0006	.0015	.0004	.0005
%RSD	1.841	.2309	10.04	6.244	.3428	.1236	.2966	.0849	.1027
#1	193.7	498.3	.3314	.1755	.4801	.4876	.5106	.4721	.5149
#2	189.3	498.3	.2748	.1754	.4831	.4888	.5125	.4714	.5151
#3	186.8	496.3	.3256	.1951	.4805	.4881	.5135	.4715	.5141
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/22/2019 16:39:29 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5063**	**.4820**	**.4949**	**.5105**	**.5067**	**.5330**	**.4963**
Stddev	.0007	.0005	.0009	.0027	.0021	.0038	.0035
%RSD	.1352	.0966	.1756	.5354	.4209	.7174	.7032
#1	.5058	.4814	.4958	.5136	.5047	.5310	.4960
#2	.5071	.4821	.4949	.5094	.5063	.5374	.4930
#3	.5059	.4823	.4941	.5085	.5090	.5305	.4999
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**125300.**	**24853.**	**5790.0**	**8249.8**
Stddev	257.	154.	13.5	21.5
%RSD	.20518	.61776	.23229	.26089
#1	125030.	24691.	5779.7	8227.3
#2	125540.	24873.	5805.2	8270.1
#3	125310.	24996.	5785.0	8252.0

Zoom In Zoom Out

Sample Name: mp14421-b1 1 Acquired: 4/22/2019 16:44:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.100**	**2.044**	**2.111**	**2.078**	**2.040**	**2.048**	**2.085**	**2.092**	**.0880**
Stddev	.002	.001	.003	.002	.002	.004	.013	.003	.0002
%RSD	.1116	.0675	.1217	.1047	.1176	.1804	.6152	.1279	.2049
#1	2.100	2.043	2.110	2.075	2.038	2.044	2.074	2.089	.0882
#2	2.103	2.045	2.114	2.080	2.040	2.049	2.082	2.095	.0879
#3	2.098	2.043	2.109	2.078	2.043	2.051	2.099	2.093	.0880

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.025**	**2.096**	**2.124**	**2.201**	**2.109**	**2.137**	**2.163**	**26.05**	**26.15**
Stddev	.004	.004	.002	.007	.003	.003	.007	.02	.01
%RSD	.1804	.2109	.0702	.3388	.1290	.1608	.3299	.0876	.0380
#1	2.023	2.096	2.123	2.193	2.108	2.134	2.160	26.05	26.14
#2	2.023	2.100	2.125	2.204	2.112	2.137	2.171	26.07	26.16
#3	2.029	2.091	2.122	2.207	2.106	2.140	2.158	26.03	26.15

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.66**	**26.08**	**26.32**	**27.09**	**2.134**	**2.127**	**.0062**	**2.161**	**2.083**
Stddev	.02	.01	.04	.05	.003	.005	.0010	.003	.002
%RSD	.0970	.0434	.1649	.1715	.1600	.2374	15.65	.1520	.1108
#1	25.63	26.07	26.27	27.05	2.133	2.122	.0057	2.159	2.081
#2	25.68	26.09	26.35	27.14	2.138	2.132	.0074	2.165	2.086
#3	25.66	26.09	26.35	27.08	2.131	2.127	.0056	2.159	2.083

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.092**	**1.979**	**2.108**	**.0238**	**.1280**	**-.0047**	**1.895**
Stddev	.004	.007	.002	.0003	.0013	.0021	.004
%RSD	.1996	.3573	.0811	1.382	1.002	45.55	.1912
#1	2.090	1.974	2.107	.0242	.1293	-.0030	1.896
#2	2.089	1.987	2.107	.0237	.1267	-.0071	1.892
#3	2.097	1.977	2.110	.0235	.1282	-.0040	1.899

Zoom In Zoom Out

Sample Name: mp14421-b1 1 Acquired: 4/22/2019 16:44:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**140790.**	**26062.**	**6375.2**	**9328.7**
Stddev	869.	116.	15.5	10.0
%RSD	.61707	.44394	.24254	.10771
#1	141170.	26116.	6364.7	9321.2
#2	141390.	26140.	6368.0	9324.7
#3	139790.	25929.	6393.0	9340.1

Zoom In Zoom Out

Sample Name: mp14421-mb1 1 Acquired: 4/22/2019 16:49:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0000**	**-.0001**	**-.0002**	**.0000**	**.0006**	**.0000**	**.0002**	**.0001**
Stddev	.0002	.0000	.0001	.0002	.0002	.0003	.0000	.0001	.0003
%RSD	62.34	69.68	166.2	148.1	1810.	56.71	159.3	44.19	191.3
#1	-.0002	-.0000	.0000	-.0004	.0002	.0002	.0001	.0002	-.0001
#2	-.0006	-.0000	-.0001	.0000	-.0002	.0007	.0000	.0003	.0004
#3	-.0003	-.0000	-.0002	-.0001	-.0000	.0008	-.0000	.0001	.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0006**	**.0021**	**.0003**	**.0016**	**.0010**	**-.0014**	**-.0015**	**-.0038**	**.0160**
Stddev	.0001	.0001	.0006	.0015	.0010	.0011	.0017	.0055	.0016
%RSD	15.91	3.589	199.2	93.66	97.24	81.05	112.0	144.3	9.955
#1	-.0006	.0021	-.0002	.0034	.0002	-.0023	-.0002	-.0087	.0169
#2	-.0007	.0020	.0009	.0010	.0007	-.0016	-.0034	.0021	.0169
#3	-.0005	.0020	.0002	.0005	.0021	-.0002	-.0009	-.0048	.0142

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0027**	**-.0021**	**.0438**	**.0228**	**.0012**	**.0004**	**.0008**	**-.0012**	**.0001**
Stddev	.0009	.0030	.0460	.0142	.0001	.0000	.0000	.0003	.0001
%RSD	33.12	146.8	105.0	62.29	10.74	8.012	4.097	26.91	74.35
#1	.0034	-.0005	.0615	.0330	.0013	.0004	.0009	-.0010	.0001
#2	.0031	-.0055	.0784	.0288	.0011	.0004	.0008	-.0015	.0000
#3	.0017	-.0001	-.0084	.0066	.0011	.0004	.0008	-.0010	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0030**	**.0002**	**.0040**	**.0009**	**-.0021**	**.0149**
Stddev	.0001	.0002	.0001	.0015	.0014	.0013	.0012
%RSD	40.83	8.189	68.18	37.90	155.0	65.63	8.059
#1	.0003	.0033	.0000	.0047	.0026	-.0036	.0135
#2	.0001	.0028	.0002	.0051	-.0002	-.0016	.0158
#3	.0002	.0031	.0003	.0023	.0005	-.0010	.0153

Zoom In Zoom Out

Sample Name: mp14421-mb1 1 Acquired: 4/22/2019 16:49:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147700.**	**26273.**	**6757.5**	**10373.**
Stddev	764.	128.	200.5	233.
%RSD	.51714	.48839	2.9674	2.2443
#1	147130.	26224.	6635.7	10233.
#2	147400.	26419.	6647.9	10244.
#3	148570.	26177.	6989.0	10642.

Zoom In Zoom Out

Sample Name: mp14421-mb2 Acquired: 4/22/2019 16:54:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0000**	**-.0000**	**-.0002**	**.0000**	**.0018**	**.0002**	**.0004**	**.0000**
Stddev	.0001	.0001	.0000	.0001	.0002	.0003	.0000	.0004	.0001
%RSD	42.01	150.4	936.6	68.20	613.6	14.69	7.020	100.4	1177.
#1	-.0004	-.0001	-.0000	-.0001	.0002	.0019	.0003	.0001	-.0001
#2	-.0002	.0000	.0000	-.0002	.0001	.0015	.0002	.0008	.0001
#3	-.0002	-.0001	-.0000	-.0003	-.0002	.0020	.0002	.0002	-.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0006**	**.0040**	**.0007**	**.0008**	**.0007**	**.0000**	**-.0014**	**.0083**	**.0090**
Stddev	.0002	.0001	.0005	.0004	.0006	.0021	.0005	.0120	.0010
%RSD	33.40	2.818	63.45	48.86	89.51	22700.	39.58	143.7	11.48
#1	-.0006	.0041	.0012	.0003	.0011	-.0005	-.0012	.0090	.0084
#2	-.0008	.0039	.0006	.0009	.0009	.0023	-.0020	-.0040	.0101
#3	-.0004	.0039	.0004	.0011	-.0000	-.0018	-.0009	.0199	.0083

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0034**	**.0019**	**.0695**	**.0463**	**.0011**	**.0002**	**.0057**	**-.0004**	**.0001**
Stddev	.0014	.0045	.0086	.0091	.0005	.0000	.0019	.0002	.0000
%RSD	40.13	242.9	12.44	19.70	41.25	18.48	33.10	42.48	30.01
#1	.0046	-.0034	.0768	.0403	.0015	.0002	.0078	-.0002	.0001
#2	.0019	.0048	.0600	.0417	.0006	.0002	.0041	-.0006	.0001
#3	.0037	.0042	.0718	.0568	.0013	.0002	.0053	-.0004	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0019**	**.0001**	**.0082**	**.0024**	**-.0032**	**.0125**
Stddev	.0002	.0006	.0001	.0015	.0017	.0018	.0019
%RSD	162.5	32.27	162.4	18.17	70.98	57.28	15.11
#1	-.0004	.0020	.0002	.0067	.0018	-.0012	.0147
#2	.0000	.0024	-.0001	.0081	.0011	-.0038	.0113
#3	-.0000	.0012	.0001	.0097	.0043	-.0047	.0115

Zoom In Zoom Out

Sample Name: mp14421-mb2 Acquired: 4/22/2019 16:54:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**148020.**	**26490.**	**6695.8**	**10265.**
Stddev	1175.	157.	19.7	16.
%RSD	.79363	.59414	.29444	.15691
#1	146730.	26325.	6683.8	10253.
#2	149040.	26506.	6685.0	10257.
#3	148270.	26639.	6718.5	10283.

Zoom In Zoom Out

Sample Name: mp14421-b2 Acquired: 4/22/2019 17:00:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.909**	**1.857**	**1.902**	**1.886**	**1.854**	**1.858**	**1.879**	**1.901**	**.2482**
Stddev	.003	.004	.002	.003	.003	.004	.009	.002	.0006
%RSD	.1524	.1892	.1205	.1423	.1661	.2196	.4581	.0922	.2345
#1	1.909	1.860	1.904	1.888	1.857	1.859	1.882	1.902	.2486
#2	1.911	1.857	1.901	1.885	1.851	1.853	1.869	1.899	.2475
#3	1.905	1.853	1.900	1.883	1.855	1.861	1.886	1.902	.2484

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.836**	**1.906**	**1.879**	**2.007**	**1.914**	**1.922**	**1.910**	**23.69**	**23.78**
Stddev	.002	.005	.001	.003	.002	.005	.003	.02	.06
%RSD	.0854	.2411	.0653	.1716	.1177	.2397	.1621	.1029	.2319
#1	1.838	1.912	1.878	2.008	1.916	1.925	1.912	23.71	23.82
#2	1.835	1.903	1.881	2.010	1.914	1.924	1.906	23.70	23.80
#3	1.835	1.904	1.879	2.003	1.912	1.917	1.910	23.67	23.72

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.42**	**23.75**	**24.05**	**24.72**	**1.916**	**1.885**	**.0059**	**1.918**	**1.894**
Stddev	.04	.05	.06	.01	.003	.001	.0015	.004	.001
%RSD	.1504	.2186	.2491	.0420	.1736	.0764	26.21	.2298	.0245
#1	23.43	23.80	24.11	24.71	1.920	1.886	.0076	1.923	1.895
#2	23.44	23.77	24.06	24.71	1.914	1.883	.0054	1.917	1.895
#3	23.38	23.70	23.99	24.73	1.914	1.884	.0047	1.914	1.894

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.861**	**1.708**	**1.873**	**.0249**	**.1127**	**-.0054**	**1.798**
Stddev	.001	.003	.002	.0032	.0014	.0011	.015
%RSD	.0519	.1704	.0788	12.96	1.214	20.65	.8576
#1	1.861	1.707	1.875	.0219	.1130	-.0041	1.782
#2	1.861	1.706	1.872	.0246	.1112	-.0062	1.799
#3	1.860	1.711	1.872	.0283	.1138	-.0059	1.813

Zoom In Zoom Out

Sample Name: mp14421-b2 Acquired: 4/22/2019 17:00:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142560.**	**26396.**	**6463.4**	**9440.8**
Stddev	253.	91.	14.5	20.3
%RSD	.17730	.34457	.22416	.21486
#1	142380.	26354.	6463.8	9446.1
#2	142850.	26334.	6477.6	9457.9
#3	142440.	26501.	6448.7	9418.4

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 17:05:02 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.089**	**2.042**	**2.031**	**2.063**	**2.035**	**2.027**	**2.061**	**2.078**	**.2525**
Stddev	.006	.003	.001	.001	.004	.003	.017	.001	.0004
%RSD	.2699	.1661	.0543	.0701	.1832	.1670	.8228	.0670	.1397
#1	2.095	2.045	2.031	2.064	2.037	2.029	2.053	2.079	.2523
#2	2.089	2.041	2.031	2.063	2.037	2.029	2.080	2.077	.2529
#3	2.083	2.038	2.029	2.062	2.031	2.023	2.049	2.076	.2522
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.022**	**2.052**	**2.043**	**2.110**	**2.066**	**2.045**	**2.046**	**40.51**	**40.67**
Stddev	.003	.001	.004	.012	.005	.003	.004	.06	.08
%RSD	.1518	.0634	.1840	.5462	.2540	.1616	.1921	.1507	.2047
#1	2.024	2.051	2.044	2.113	2.067	2.043	2.043	40.53	40.76
#2	2.024	2.054	2.039	2.098	2.070	2.044	2.046	40.55	40.66
#3	2.019	2.051	2.046	2.121	2.060	2.049	2.051	40.44	40.60
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.99**	**40.31**	**41.10**	**41.65**	**2.070**	**2.070**	**5.324**	**2.060**	**2.072**
Stddev	.07	.04	.01	.02	.003	.002	.003	.005	.004
%RSD	.1845	.0891	.0181	.0471	.1189	.1167	.0623	.2662	.2120
#1	40.05	40.35	41.09	41.66	2.069	2.071	5.324	2.062	2.076
#2	40.01	40.31	41.10	41.67	2.073	2.067	5.327	2.054	2.073
#3	39.91	40.28	41.11	41.63	2.068	2.071	5.320	2.065	2.068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 17:05:02 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.053**	**2.043**	**2.068**	**1.991**	**2.073**	**2.013**	**1.954**
Stddev	.002	.001	.002	.008	.003	.004	.004
%RSD	.1077	.0424	.0785	.3966	.1497	.1929	.2083
#1	2.053	2.043	2.069	1.997	2.070	2.017	1.952
#2	2.055	2.042	2.070	1.982	2.074	2.013	1.952
#3	2.051	2.044	2.067	1.995	2.076	2.010	1.959
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**135870.**	**25438.**	**6214.4**	**8954.8**
Stddev	732.	99.	5.9	9.6
%RSD	.53881	.39026	.09545	.10671
#1	135340.	25343.	6211.9	8944.4
#2	135560.	25429.	6210.1	8956.8
#3	136710.	25541.	6221.1	8963.2

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 17:10:04 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0000**	**.0000**	**-.0004**	**.0000**	**.0002**	**.0001**	**.0001**	**-.0004**
Stddev	.0003	.0001	.0001	.0001	.0003	.0001	.0001	.0004	.0008
%RSD	220.4	146.6	530.9	15.47	982.5	38.69	63.66	276.0	181.7
#1	.0001	-.0001	.0000	-.0004	.0002	.0002	.0000	.0000	-.0006
#2	-.0000	-.0000	.0002	-.0005	-.0003	.0002	.0001	.0006	.0004
#3	-.0005	-.0000	-.0001	-.0004	.0002	.0003	.0001	-.0002	-.0012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0002**	**-.0006**	**.0003**	**.0001**	**-.0014**	**.0007**	**-.0004**	**-.0044**
Stddev	.0004	.0000	.0015	.0007	.0010	.0006	.0003	.0113	.0014
%RSD	558.1	11.93	244.2	221.6	1803.	41.69	44.46	2904.	32.52
#1	.0001	.0002	.0001	.0001	.0009	-.0021	.0005	-.0087	-.0060
#2	.0003	.0003	-.0024	.0011	.0003	-.0010	.0010	.0124	-.0041
#3	-.0006	.0002	.0004	-.0003	-.0010	-.0012	.0005	-.0049	-.0032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0002**	**.1140**	**.0823**	**.0037**	**.0005**	**-.0004**	**-.0002**	**-.0000**
Stddev	.0003	.0031	.0228	.0085	.0004	.0003	.0011	.0007	.0000
%RSD	95.15	1542.	19.97	10.30	11.22	49.76	281.0	319.1	260.6
#1	.0000	-.0029	.1391	.0781	.0040	.0003	-.0016	.0001	.0000
#2	-.0005	-.0009	.0947	.0766	.0038	.0004	.0000	-.0010	-.0000
#3	-.0005	.0032	.1081	.0920	.0032	.0008	.0004	.0003	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 17:10:04 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	F **.0086**	**.0001**	**.0025**	**.0029**	**.0018**	**.0101**
Stddev	.0004	.0003	.0002	.0003	.0012	.0018	.0017
%RSD	259.4	3.823	138.2	10.26	41.70	99.22	16.53
#1	.0006	.0084	.0002	.0026	.0035	.0036	.0082
#2	-.0002	.0090	-.0001	.0022	.0015	.0019	.0111
#3	.0000	.0085	.0003	.0027	.0037	-.0000	.0111
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0050					
Low Limit		-.0050					

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143400.**	**25689.**	**6494.6**	**9902.7**
Stddev	1086.	61.	17.9	28.5
%RSD	.75764	.23775	.27618	.28806
#1	143620.	25749.	6473.9	9871.2
#2	142220.	25692.	6505.7	9909.9
#3	144360.	25627.	6504.3	9926.8

Zoom In Zoom Out

Sample Name: mp14421-s1 1 Acquired: 4/22/2019 17:15:13 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.156**	**2.054**	**2.089**	**2.467**	**2.081**	**1.999**	**22.94**	**2.552**	**.1000**
Stddev	.002	.005	.021	.036	.012	.029	.03	.021	.0216
%RSD	.1080	.2591	1.002	1.446	.5607	1.467	.1164	.8033	21.60
#1	2.159	2.050	2.067	2.427	2.082	2.031	22.94	2.529	.0878
#2	2.154	2.060	2.092	2.477	2.093	1.993	22.92	2.564	.1250
#3	2.156	2.051	2.109	2.496	2.069	1.973	22.97	2.564	.0873

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.085**	**5.384**	**2.033**	**2.253**	**2.199**	**1.849**	**2.330**	**29.10**	**551.8**
Stddev	.033	.006	.051	.077	.066	.045	.205	.75	1.4
%RSD	1.601	.1087	2.523	3.408	3.001	2.420	8.801	2.561	.2545
#1	2.054	5.381	1.974	2.194	2.258	1.848	2.269	28.54	550.2
#2	2.120	5.380	2.064	2.340	2.128	1.894	2.558	29.94	552.7
#3	2.080	5.390	2.062	2.226	2.211	1.805	2.162	28.81	552.5

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1483.**	**167.2**	**51.65**	**904.2**	**4.635**	**2.210**	**14.65**	**2.142**	**4.681**
Stddev	3.	1.6	3.61	2.4	.048	.015	.17	.074	.009
%RSD	.1934	.9401	6.989	.2622	1.032	.6698	1.183	3.470	.1842
#1	1480.	166.2	47.63	905.9	4.602	2.226	14.66	2.091	4.682
#2	1486.	169.0	54.61	905.2	4.690	2.197	14.82	2.108	4.672
#3	1483.	166.4	52.70	901.5	4.613	2.207	14.47	2.227	4.690

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.114**	**2.567**	**2.076**	**1115.**	**.1379**	**-.5081**	**3.680**
Stddev	.032	.097	.004	4.	.0406	.0876	.219
%RSD	1.506	3.772	.1752	.3264	29.44	17.24	5.957
#1	2.143	2.658	2.073	1118.	.1511	-.4124	3.465
#2	2.119	2.466	2.074	1111.	.1703	-.5844	3.903
#3	2.080	2.578	2.080	1116.	.0924	-.5276	3.673

Zoom In Zoom Out

Sample Name: mp14421-s1 1 Acquired: 4/22/2019 17:15:13 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143320.**	**25905.**	**6454.8**	**9675.2**
Stddev	359.	44.	7.3	5.1
%RSD	.25033	.16806	.11262	.05322
#1	143670.	25896.	6456.2	9676.3
#2	142960.	25952.	6461.3	9679.8
#3	143320.	25866.	6447.0	9669.7

Zoom In Zoom Out

Sample Name: mp14421-s2 Acquired: 4/22/2019 17:20:13 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.109**	**2.017**	**2.036**	**2.433**	**2.026**	**1.951**	**22.74**	**2.515**	**.0992**
Stddev	.019	.008	.014	.035	.010	.060	.03	.028	.0353
%RSD	.9050	.3917	.6789	1.419	.5123	3.098	.1198	1.116	35.64
#1	2.087	2.026	2.022	2.471	2.019	1.889	22.76	2.488	.0869
#2	2.121	2.012	2.050	2.422	2.037	2.010	22.74	2.513	.1390
#3	2.118	2.013	2.035	2.405	2.021	1.955	22.71	2.544	.0716

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.010**	**5.308**	**2.017**	**2.142**	**2.106**	**1.820**	**2.108**	**28.30**	**548.3**
Stddev	.016	.011	.084	.148	.006	.094	.148	.30	.7
%RSD	.8016	.2089	4.165	6.909	.2687	5.150	7.022	1.057	.1238
#1	2.026	5.319	1.944	2.110	2.109	1.927	2.162	28.51	548.8
#2	1.994	5.306	1.998	2.013	2.099	1.777	1.941	28.43	547.5
#3	2.009	5.297	2.109	2.303	2.110	1.755	2.222	27.96	548.5

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1473.**	**165.4**	**49.32**	**895.7**	**4.526**	**2.146**	**14.37**	**2.179**	**4.623**
Stddev	2.	2.2	4.40	1.4	.028	.003	.07	.012	.012
%RSD	.1471	1.352	8.927	.1549	.6263	.1392	.4607	.5287	.2504
#1	1475.	167.1	49.41	896.6	4.559	2.147	14.40	2.167	4.610
#2	1471.	162.8	53.68	896.4	4.510	2.143	14.30	2.190	4.630
#3	1472.	166.1	44.88	894.1	4.509	2.149	14.42	2.180	4.629

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.051**	**2.435**	**2.050**	**1105.**	**.1692**	**-.3338**	**3.848**
Stddev	.018	.046	.012	2.	.0767	.2306	.043
%RSD	.9010	1.883	.5668	.1848	45.33	69.08	1.104
#1	2.064	2.486	2.043	1104.	.0814	-.4847	3.843
#2	2.030	2.398	2.043	1108.	.2231	-.0684	3.808
#3	2.059	2.420	2.063	1105.	.2031	-.4482	3.892

Zoom In Zoom Out

Sample Name: mp14421-s2 Acquired: 4/22/2019 17:20:13 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142630.**	**25606.**	**6452.3**	**9670.1**
Stddev	490.	95.	22.1	24.8
%RSD	.34372	.37035	.34189	.25628
#1	142520.	25632.	6429.3	9646.0
#2	143170.	25685.	6454.2	9668.6
#3	142210.	25501.	6473.3	9695.5

Zoom In Zoom Out

Sample Name: jc86634-1 Acquired: 4/22/2019 17:25:13 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0145**	**-.0071**	**-.0099**	**.3462**	**.0038**	**-.0058**	**20.42**	**.4377**	**.0252**
Stddev	.0177	.0013	.0142	.0194	.0179	.0167	.04	.0451	.0380
%RSD	122.1	17.96	143.5	5.608	475.5	288.4	.1888	10.30	150.6
#1	-.0039	-.0083	-.0250	.3377	-.0002	-.0068	20.38	.4263	-.0141
#2	.0314	-.0057	-.0081	.3325	.0233	.0114	20.44	.3994	.0280
#3	.0160	-.0073	.0033	.3684	-.0119	-.0220	20.45	.4873	.0618

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0103**	**3.222**	**.0064**	**.0497**	**-.0350**	**-.1831**	**.0665**	**2.649**	**519.9**
Stddev	.0367	.015	.1426	.2030	.0874	.0450	.1585	.526	1.5
%RSD	355.2	.4600	2224.	408.4	249.7	24.56	238.3	19.86	.2948
#1	-.0460	3.235	-.0793	-.1042	-.1107	-.1381	.0338	2.069	521.0
#2	-.0122	3.206	-.0725	.2797	-.0550	-.1832	.2389	3.095	518.2
#3	.0272	3.225	.1710	-.0265	.0607	-.2280	-.0731	2.784	520.6

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1439.**	**138.4**	**22.51**	**860.6**	**2.389**	**.0414**	**14.45**	**.0503**	**2.553**
Stddev	4.	.9	3.04	2.0	.093	.0185	.03	.0595	.005
%RSD	.2793	.6239	13.49	.2306	3.875	44.62	.2031	118.3	.2032
#1	1438.	139.1	23.72	860.6	2.424	.0399	14.47	.0725	2.549
#2	1435.	137.4	19.06	858.6	2.284	.0605	14.42	-.0171	2.551
#3	1443.	138.5	24.76	862.6	2.460	.0237	14.46	.0955	2.559

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0241**	**.3504**	**.0511**	**1100.**	**.0328**	**-.3556**	**1.820**
Stddev	.0462	.1203	.0231	4.	.0432	.1066	.264
%RSD	191.5	34.32	45.12	.3591	131.8	29.98	14.51
#1	.0719	.3581	.0722	1101.	.0819	-.4437	2.016
#2	.0208	.2264	.0265	1103.	.0008	-.3862	1.520
#3	-.0203	.4666	.0545	1096.	.0156	-.2371	1.925

Zoom In Zoom Out

Sample Name: jc86634-1 Acquired: 4/22/2019 17:25:13 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142860.**	**25786.**	**6462.5**	**9688.8**
Stddev	1437.	255.	22.3	30.5
%RSD	1.0056	.98960	.34506	.31482
#1	144520.	25667.	6455.5	9675.2
#2	142020.	26079.	6444.5	9667.4
#3	142040.	25613.	6487.5	9723.7

Zoom In Zoom Out

Sample Name: mp14421-sd1 Acquired: 4/22/2019 17:30:14 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 500.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0968**	**.0113**	**-.0230**	**.2309**	**.0934**	**.2406**	**20.60**	**.4702**	**-.0179**
Stddev	.1745	.0222	.0116	.0757	.1293	.0994	.04	.1563	.1079
%RSD	180.3	195.7	50.16	32.79	138.5	41.32	.1744	33.24	602.4
#1	.2258	-.0024	-.0104	.3167	.0675	.1567	20.60	.5870	-.0458
#2	.1663	.0369	-.0330	.2026	-.0211	.3503	20.56	.5311	.1012
#3	-.1017	-.0005	-.0257	.1734	.2337	.2147	20.63	.2926	-.1091

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.1316**	**3.323**	**-.4121**	**-.0814**	**.1783**	**-.3205**	**.2106**	**15.75**	**526.2**
Stddev	.0847	.035	.7861	.4150	.3615	.6140	.8760	4.45	.2
%RSD	64.34	1.037	190.8	509.8	202.7	191.6	416.0	28.26	.0335
#1	-.0714	3.363	-1.123	.2835	.4559	-.8510	.7389	18.20	526.3
#2	-.0950	3.307	-.5454	-.5329	.3096	-.4624	-.8006	18.45	526.0
#3	-.2284	3.299	.4322	.0052	-.2305	.3521	.6935	10.61	526.2

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1449.**	**137.0**	**28.14**	**885.4**	**2.919**	**.1957**	**14.79**	**-.0397**	**2.582**
Stddev	4.	1.1	13.17	4.8	.029	.0597	.98	.2240	.025
%RSD	.2923	.8265	46.79	.5461	.9958	30.48	6.625	563.5	.9601
#1	1448.	138.1	17.63	879.8	2.895	.2517	14.81	-.1689	2.609
#2	1446.	137.1	23.89	888.3	2.952	.1329	15.76	-.1693	2.560
#3	1454.	135.8	42.91	888.0	2.911	.2024	13.80	.2189	2.579

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0261**	**1.100**	**.0601**	**1089.**	**1.279**	**.8257**	**7.819**
Stddev	.2065	.519	.0213	6.	1.069	.4921	1.010
%RSD	792.8	47.19	35.53	.5070	83.60	59.59	12.92
#1	-.1796	1.689	.0772	1095.	1.630	1.190	6.671
#2	.2335	.7131	.0362	1087.	.0782	.2659	8.212
#3	.0242	.8963	.0668	1084.	2.129	1.021	8.573

Zoom In / Zoom Out

Sample Name: mp14421-sd1 Acquired: 4/22/2019 17:30:14 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 500.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143940.**	**25570.**	**6488.5**	**9838.8**
Stddev	606.	181.	7.3	5.6
%RSD	.42068	.70767	.11238	.05718
#1	144570.	25646.	6480.5	9832.5
#2	143890.	25363.	6494.8	9840.6
#3	143360.	25700.	6490.3	9843.4

Zoom In / Zoom Out

Sample Name: jc86634-2 Acquired: 4/22/2019 17:35:17 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0135**	**-.0001**	**-.0058**	**1.211**	**-.0191**	**-.0193**	**39.95**	**1.634**	**.0284**
Stddev	.0257	.0037	.0107	.035	.0357	.0261	.01	.035	.0601
%RSD	189.7	6572.	186.2	2.902	187.2	135.4	.0297	2.167	211.9
#1	.0085	.0041	-.0039	1.209	-.0588	-.0083	39.93	1.593	-.0278
#2	-.0073	-.0030	.0039	1.178	.0104	-.0491	39.96	1.653	.0918
#3	-.0418	-.0012	-.0173	1.248	-.0089	-.0005	39.95	1.656	.0211

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0439**	**12.16**	**9.823**	**-.0494**	**.0588**	**-.0045**	**.0998**	**4.728**	**101.9**
Stddev	.0124	.03	.111	.1180	.0166	.1404	.1168	.917	.6
%RSD	28.25	.2811	1.131	238.6	28.29	3148.	117.1	19.38	.5951
#1	.0353	12.17	9.704	.0834	.0774	-.0898	.0749	3.677	102.5
#2	.0581	12.19	9.924	-.0899	.0537	.1576	-.0026	5.363	101.4
#3	.0384	12.13	9.840	-.1418	.0453	-.0812	.2270	5.144	101.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5177.**	**278.2**	**14.22**	**234.3**	**4.271**	**-.0030**	**6.980**	**-.0175**	**.3673**
Stddev	13.	1.5	2.69	.6	.034	.0032	.134	.0394	.0062
%RSD	.2509	.5217	18.90	.2567	.7971	107.4	1.913	224.7	1.685
#1	5192.	279.9	11.27	234.9	4.301	-.0006	7.119	-.0028	.3739
#2	5169.	277.3	14.88	234.1	4.278	-.0066	6.967	.0124	.3616
#3	5169.	277.5	16.52	233.7	4.234	-.0017	6.853	-.0621	.3665

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0239**	**.2896**	**.0057**	**3235.**	**.0591**	**-.4420**	**2.380**
Stddev	.0282	.0668	.0343	4.	.2109	.0838	.298
%RSD	118.1	23.05	600.6	.1218	356.6	18.96	12.53
#1	-.0540	.2835	-.0322	3231.	.2978	-.5248	2.056
#2	-.0195	.3592	.0149	3239.	-.0180	-.3573	2.442
#3	.0019	.2261	.0345	3237.	-.1023	-.4438	2.643

Zoom In / Zoom Out

Sample Name: jc86634-2 Acquired: 4/22/2019 17:35:17 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142880.**	**25686.**	**6492.1**	**9804.5**
Stddev	181.	364.	12.8	15.8
%RSD	.12644	1.4188	.19696	.16118
#1	143010.	25370.	6494.2	9814.1
#2	142950.	26085.	6478.3	9786.2
#3	142680.	25603.	6503.6	9813.1

Zoom In / Zoom Out

Sample Name: jc86634-3 Acquired: 4/22/2019 17:40:20 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0434**	**-.0053**	W **-.1281**	**1.258**	**.0140**	**.1216**	**80.69**	**1.475**
Stddev	.0389	.0042	.0093	.031	.0143	.0144	.11	.029
%RSD	89.69	79.86	7.247	2.454	102.4	11.86	.1423	1.946
#1	.0734	-.0043	-.1383	1.235	-.0025	.1079	80.59	1.444
#2	.0573	-.0099	-.1201	1.293	.0216	.1202	80.82	1.480
#3	-.0006	-.0017	-.1260	1.247	.0228	.1366	80.65	1.500

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0503**	**.1668**	**12.20**	**342.0**	**-.1954**	**-.0240**	**-.0604**	**-.0539**
Stddev	.0592	.0079	.01	.4	.0672	.1444	.0998	.1401
%RSD	117.6	4.711	.0469	.1026	34.38	602.5	165.2	260.1
#1	.0292	.1753	12.21	341.8	-.1400	.0374	.0126	-.0972
#2	.0046	.1652	12.20	342.4	-.2701	-.1889	-.1742	.1028
#3	.1172	.1598	12.20	341.8	-.1761	.0796	-.0196	-.1672

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**169.1**	**488.0**	**4778.**	**346.3**	**33.14**	**429.2**	**3.238**	**.0144**
Stddev	1.3	.3	2.	.7	1.26	1.8	.059	.0097
%RSD	.7485	.0691	.0468	.1997	3.808	.4240	1.822	67.44
#1	170.4	488.3	4780.	347.0	34.30	430.7	3.305	.0043
#2	168.9	487.7	4776.	345.6	33.32	427.2	3.212	.0237
#3	167.9	487.8	4778.	346.3	31.80	429.7	3.196	.0154

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**44.46**	**.0101**	**2.167**	**.0280**	**.3181**	**.0891**	**3441.**	**.2000**
Stddev	.26	.0391	.002	.0274	.1056	.0073	4.	.3106
%RSD	.5875	386.5	.0867	98.07	33.19	8.193	.1181	155.3
#1	44.42	.0087	2.168	.0591	.2285	.0894	3442.	-.1181
#2	44.74	-.0282	2.168	.0074	.4345	.0817	3437.	.5027
#3	44.23	.0499	2.165	.0174	.2912	.0963	3445.	.2154

Zoom In Zoom Out

Sample Name: jc86634-3 Acquired: 4/22/2019 17:40:20 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.4171**	**2.773**
Stddev	.1519	.464
%RSD	36.41	16.73
#1	-.5469	3.183
#2	-.2501	2.868
#3	-.4545	2.269

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142830.**	**25612.**	**6501.5**	**9756.8**
Stddev	144.	75.	4.0	5.6
%RSD	.10076	.29276	.06142	.05691
#1	142990.	25533.	6497.6	9750.4
#2	142710.	25623.	6501.3	9760.3
#3	142800.	25682.	6505.6	9759.8

Zoom In Zoom Out

Sample Name: jc86634-4 Acquired: 4/22/2019 17:45:18 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0260**	**-.0057**	F **-.4364**	**1.396**	**.0124**	**.1912**	**26.03**	**2.369**
Stddev	.0164	.0041	.0583	.027	.0157	.0156	.02	.008
%RSD	63.20	72.02	13.37	1.921	126.3	8.176	.0690	.3317
#1	.0319	-.0021	-.5028	1.396	.0228	.2093	26.04	2.370
#2	.0074	-.0048	-.3931	1.369	-.0056	.1829	26.01	2.376
#3	.0387	-.0102	-.4133	1.423	.0201	.1815	26.03	2.361

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0240**	**.0150**	**9.820**	F **3316.**	**-.1959**	**.1347**	**-.3413**	**3.947**
Stddev	.0405	.0335	.027	8.	.1487	.0827	.1705	.162
%RSD	168.8	224.2	.2735	.2453	75.93	61.41	49.95	4.106
#1	.0625	.0536	9.789	3320.	-.2680	.0552	-.1444	4.009
#2	-.0183	-.0052	9.838	3322.	-.2948	.1286	-.4375	3.764
#3	.0278	-.0036	9.832	3307.	-.0248	.2203	-.4419	4.069

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**16.02**	**466.9**	**2811.**	**613.2**	**58.10**	**273.3**	**3.104**	**.0007**
Stddev	.55	.9	6.	1.7	3.92	.5	.033	.0072
%RSD	3.453	.1972	.2282	.2807	6.745	.1838	1.073	1027.
#1	16.26	466.7	2806.	611.5	62.46	273.6	3.133	.0070
#2	15.38	466.1	2809.	613.3	54.86	273.5	3.068	-.0071
#3	16.40	468.0	2818.	614.9	56.97	272.7	3.113	.0022

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**52.91**	**-.0030**	**1.460**	**.0656**	**-.4216**	**-.0029**	**2393.**	**.0259**
Stddev	.32	.0679	.013	.0191	.0673	.0163	20.	.0206
%RSD	.6133	2236.	.8663	29.10	15.97	564.8	.8393	79.63
#1	53.29	.0728	1.453	.0864	-.4654	.0103	2402.	.0140
#2	52.73	-.0237	1.475	.0489	-.4553	-.0210	2408.	.0140
#3	52.72	-.0581	1.453	.0615	-.3441	.0021	2370.	.0498

Zoom In Zoom Out

Sample Name: jc86634-4 Acquired: 4/22/2019 17:45:18 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0585**	**2.760**
Stddev	.1630	.257
%RSD	278.7	9.328
#1	-.2193	2.566
#2	.1067	2.662
#3	-.0629	3.052

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142450.**	**25513.**	**6464.0**	**9719.8**
Stddev	345.	45.	77.4	92.4
%RSD	.24218	.17671	1.1976	.95082
#1	142590.	25476.	6506.4	9770.3
#2	142710.	25501.	6510.9	9775.9
#3	142060.	25563.	6374.6	9613.1

Zoom In Zoom Out

Sample Name: jc86554-12 Acquired: 4/22/2019 17:53:16 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14455

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0121**	**.0004**	**-.0002**	**.0032**	**.0005**	**.0477**	**.3773**	**.0150**	**-.0004**
Stddev	.0003	.0001	.0002	.0003	.0001	.0001	.0004	.0004	.0004
%RSD	2.780	19.47	97.78	10.37	27.30	.2030	.1088	2.734	97.59
#1	.0124	.0005	-.0002	.0030	.0005	.0478	.3768	.0153	-.0009
#2	.0118	.0004	-.0003	.0030	.0003	.0476	.3776	.0146	-.0002
#3	.0121	.0003	.0000	.0036	.0006	.0476	.3774	.0152	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.1800**	**.0015**	**.0000**	**.0070**	**-.0045**	**-.0023**	**-.0048**	**57.17**
Stddev	.0003	.0001	.0007	.0006	.0012	.0016	.0018	.0037	.15
%RSD	129.0	.0744	45.45	1561.	17.45	35.17	80.23	77.00	.2568
#1	-.0001	.1799	.0015	-.0004	.0070	-.0063	-.0012	-.0044	57.06
#2	.0002	.1801	.0008	-.0002	.0058	-.0035	-.0013	-.0013	57.11
#3	.0005	.1798	.0021	.0007	.0083	-.0037	-.0044	-.0086	57.34

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.655**	**7.270**	**5.321**	**35.82**	**.1467**	**.0001**	**12.61**	**-.0020**	**.2388**
Stddev	.007	.027	.035	.04	.0008	.0003	.02	.0003	.0005
%RSD	.4251	.3667	.6504	.0998	.5455	330.0	.1339	12.81	.2205
#1	1.651	7.254	5.342	35.83	.1468	-.0001	12.61	-.0022	.2384
#2	1.651	7.256	5.281	35.79	.1474	.0004	12.62	-.0020	.2386
#3	1.663	7.301	5.340	35.86	.1458	-.0000	12.59	-.0017	.2394

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**-.0002**	**-.0009**	**30.68**	**.0003**	**.0173**	**.0593**
Stddev	.0000	.0003	.0003	.05	.0015	.0007	.0029
%RSD	5.027	123.7	32.74	.1475	590.7	3.872	4.953
#1	-.0006	-.0004	-.0006	30.63	.0008	.0168	.0579
#2	-.0007	-.0004	-.0008	30.70	-.0015	.0170	.0627
#3	-.0007	.0001	-.0012	30.71	.0015	.0180	.0574

Zoom In Zoom Out

Sample Name: jc86554-12 Acquired: 4/22/2019 17:53:16 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14455

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142850.**	**26236.**	**6464.9**	**9466.6**
Stddev	459.	152.	6.5	6.5
%RSD	.32166	.58019	.10072	.06877
#1	142830.	26308.	6462.4	9469.1
#2	143320.	26339.	6460.0	9459.2
#3	142400.	26061.	6472.3	9471.5

Zoom In Zoom Out

Sample Name: jc86554-13 Acquired: 4/22/2019 17:58:17 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**-.0000**	**.0001**	**-.0001**	**.0002**	**.0714**	**.0001**	**.0012**	**-.0003**
Stddev	.0002	.0001	.0001	.0002	.0003	.0005	.0000	.0000	.0003
%RSD	26.51	132.0	87.87	137.0	103.9	.6719	20.12	3.127	94.05
#1	.0007	-.0000	.0002	.0001	-.0000	.0719	.0002	.0012	.0000
#2	.0007	-.0001	.0001	-.0003	.0003	.0710	.0001	.0012	-.0004
#3	.0004	-.0000	.0000	-.0002	.0005	.0714	.0002	.0012	-.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0913**	**.0008**	**.0006**	**.0044**	**-.0028**	**-.0016**	**.0049**	**1.937**
Stddev	.0003	.0003	.0005	.0012	.0011	.0003	.0005	.0062	.003
%RSD	102.8	.3220	58.52	196.8	26.01	10.83	33.55	127.4	.1352
#1	-.0006	.0911	.0004	.0011	.0055	-.0027	-.0011	.0121	1.934
#2	.0000	.0916	.0008	.0016	.0032	-.0032	-.0016	.0012	1.939
#3	-.0003	.0911	.0013	-.0008	.0045	-.0027	-.0021	.0014	1.938

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0041**	**.2657**	**.5127**	**43.30**	**.1757**	**.0006**	**11.88**	**-.0018**	**.0126**
Stddev	.0010	.0121	.0200	.07	.0011	.0001	.01	.0006	.0002
%RSD	24.40	4.551	3.904	.1711	.6529	14.53	.1261	30.50	1.304
#1	-.0033	.2546	.5139	43.23	.1748	.0007	11.88	-.0024	.0124
#2	-.0052	.2786	.5321	43.29	.1770	.0006	11.90	-.0017	.0127
#3	-.0038	.2640	.4921	43.38	.1753	.0006	11.87	-.0013	.0126

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0100**	**-.0006**	**5.761**	**.0001**	**.0041**	**.0364**
Stddev	.0001	.0014	.0002	.026	.0012	.0025	.0015
%RSD	58.63	13.74	42.28	.4517	903.9	61.87	4.020
#1	-.0001	.0106	-.0005	5.760	.0003	.0025	.0375
#2	-.0003	.0109	-.0004	5.788	-.0011	.0070	.0347
#3	-.0004	.0084	-.0008	5.736	.0013	.0027	.0369

Zoom In Zoom Out

Sample Name: jc86554-13 Acquired: 4/22/2019 17:58:17 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144740.**	**26124.**	**6549.6**	**9651.4**
Stddev	548.	39.	9.4	14.3
%RSD	.37882	.15022	.14344	.14770
#1	144240.	26168.	6560.4	9665.6
#2	144660.	26092.	6545.3	9651.7
#3	145320.	26111.	6543.2	9637.1

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 18:03:21 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.058**	**1.999**	**2.014**	**2.034**	**2.003**	**1.994**	**2.022**	**2.051**	**.2474**
Stddev	.004	.004	.008	.001	.004	.007	.021	.000	.0025
%RSD	.1767	.1941	.3795	.0305	.1865	.3746	1.017	.0189	1.019
#1	2.059	2.001	2.023	2.033	2.004	1.986	2.024	2.050	.2445
#2	2.054	1.995	2.011	2.034	1.999	1.995	2.041	2.051	.2487
#3	2.061	2.002	2.009	2.034	2.006	2.001	2.000	2.051	.2490

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.980**	**2.014**	**2.018**	**2.039**	**2.039**	**2.014**	**2.032**	**40.04**	**40.22**
Stddev	.013	.006	.003	.051	.005	.006	.007	.08	.06
%RSD	.6498	.2831	.1424	2.485	.2357	.3096	.3238	.2045	.1522
#1	1.966	2.021	2.021	1.981	2.034	2.007	2.040	40.08	40.24
#2	1.984	2.010	2.016	2.072	2.044	2.019	2.027	39.94	40.16
#3	1.991	2.012	2.016	2.065	2.040	2.015	2.030	40.08	40.28

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.45**	**39.98**	**40.67**	**41.56**	**2.072**	**2.051**	*****	**2.024**	**2.052**
Stddev	.03	.03	.16	.02	.044	.002	-----	.001	.002
%RSD	.0845	.0791	.3933	.0561	2.125	.0888	-----	.0547	.0863
#1	39.43	39.98	40.56	41.53	2.123	2.053	-----	2.025	2.053
#2	39.44	39.95	40.61	41.56	2.049	2.049	5.282	2.023	2.050
#3	39.49	40.01	40.85	41.58	2.044	2.052	5.280	2.023	2.053

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.031**	**2.007**	**2.039**	**1.943**	**1.999**	**1.991**	**1.863**
Stddev	.002	.012	.005	.039	.109	.007	.041
%RSD	.0996	.5983	.2325	1.997	5.470	.3492	2.188
#1	2.031	2.021	2.036	1.898	1.873	1.993	1.819
#2	2.029	2.000	2.037	1.967	2.060	1.984	1.899
#3	2.033	2.001	2.044	1.964	2.064	1.997	1.870

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 18:03:21 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**136720.**	**25364.**	**6213.1**	**8941.7**
Stddev	196.	63.	40.5	38.9
%RSD	.14318	.24766	.65212	.43505
#1	136490.	25436.	6166.6	8898.1
#2	136810.	25339.	6231.6	8953.8
#3	136850.	25318.	6241.0	8973.0

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 18:08:23 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0001**	**-.0002**	**-.0003**	**.0001**	**.0002**	**-.0000**	**-.0002**	**-.0007**
Stddev	.0004	.0001	.0001	.0001	.0001	.0003	.0001	.0002	.0001
%RSD	674.5	195.7	82.64	46.52	88.77	150.1	1005.	97.74	11.18
#1	-.0001	-.0001	-.0000	-.0003	.0001	.0005	-.0000	-.0001	-.0006
#2	.0005	.0001	-.0003	-.0004	.0000	.0000	.0001	-.0001	-.0008
#3	-.0002	-.0001	-.0002	-.0001	.0002	.0000	-.0001	-.0003	-.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0002**	**.0008**	**-.0004**	**.0007**	**-.0010**	**.0004**	**-.0064**	**-.0028**
Stddev	.0003	.0000	.0019	.0014	.0006	.0016	.0004	.0044	.0016
%RSD	79.98	7.507	253.2	389.9	92.42	158.9	111.6	68.87	56.46
#1	-.0000	.0002	-.0007	-.0019	.0002	-.0008	.0006	-.0020	-.0010
#2	-.0005	.0002	.0029	.0010	.0005	.0005	-.0001	-.0064	-.0035
#3	-.0006	.0002	.0001	-.0002	.0013	-.0027	.0006	-.0108	-.0038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**-.0068**	**.1729**	**.0948**	**.0021**	**.0004**	**.0011**	**-.0001**	**.0001**
Stddev	.0002	.0077	.0576	.0076	.0007	.0002	.0009	.0001	.0001
%RSD	16.81	112.5	33.31	8.052	33.57	38.89	85.93	87.01	240.1
#1	.0016	.0015	.2337	.1020	.0020	.0003	.0021	-.0002	.0002
#2	.0013	-.0084	.1191	.0868	.0028	.0006	.0003	-.0001	-.0001
#3	.0012	-.0136	.1660	.0956	.0014	.0004	.0008	-.0000	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 18:08:23 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0016**	**.0001**	**.0015**	**-.0002**	**-.0021**	**.0171**
Stddev	.0004	.0008	.0001	.0012	.0015	.0029	.0012
%RSD	182.5	50.47	105.7	82.23	878.4	138.0	7.047
#1	-.0001	.0026	.0001	.0022	-.0001	-.0044	.0181
#2	.0001	.0013	.0002	.0001	-.0017	.0011	.0157
#3	-.0006	.0010	-.0000	.0023	.0013	-.0030	.0173
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144910.**	**25487.**	**6521.0**	**9912.0**
Stddev	128.	103.	7.6	4.1
%RSD	.08863	.40267	.11694	.04161
#1	144890.	25530.	6525.1	9908.0
#2	145040.	25562.	6525.7	9911.8
#3	144790.	25370.	6512.2	9916.3

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 18:13:43 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.075**	**2.014**	**2.007**	**2.034**	**2.008**	**2.007**	**2.032**	**2.056**	**.2495**
Stddev	.002	.003	.001	.001	.003	.002	.024	.001	.0009
%RSD	.0984	.1550	.0286	.0291	.1450	.1176	1.166	.0548	.3736
#1	2.073	2.012	2.006	2.034	2.011	2.009	2.059	2.055	.2496
#2	2.075	2.017	2.006	2.034	2.007	2.008	2.022	2.056	.2503
#3	2.076	2.012	2.007	2.035	2.005	2.005	2.014	2.057	.2485
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.989**	**2.017**	**2.025**	**2.101**	**2.045**	**2.023**	**2.023**	**40.27**	**40.51**
Stddev	.002	.001	.001	.002	.002	.002	.003	.02	.02
%RSD	.0933	.0709	.0490	.1031	.0859	.1156	.1662	.0495	.0425
#1	1.991	2.018	2.024	2.099	2.043	2.020	2.021	40.25	40.52
#2	1.987	2.018	2.025	2.103	2.045	2.024	2.027	40.29	40.52
#3	1.988	2.015	2.026	2.102	2.047	2.025	2.021	40.27	40.49
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.65**	**40.17**	**41.00**	**41.71**	**2.045**	**2.058**	**5.275**	**2.033**	**2.061**
Stddev	.03	.00	.05	.05	.002	.001	.003	.001	.000
%RSD	.0647	.0019	.1187	.1117	.0861	.0524	.0595	.0485	.0101
#1	39.65	40.17	41.03	41.76	2.045	2.059	5.273	2.032	2.061
#2	39.67	40.17	41.02	41.68	2.044	2.059	5.279	2.032	2.061
#3	39.62	40.17	40.94	41.68	2.047	2.057	5.274	2.034	2.061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 18:13:43 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.033**	**2.006**	**2.043**	**1.970**	**2.061**	**2.008**	**1.862**
Stddev	.002	.001	.000	.008	.004	.005	.016
%RSD	.0724	.0709	.0035	.3866	.1939	.2410	.8731
#1	2.035	2.005	2.043	1.962	2.057	2.004	1.843
#2	2.032	2.008	2.043	1.976	2.061	2.013	1.871
#3	2.032	2.005	2.043	1.972	2.065	2.005	1.872
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**136840.**	**25375.**	**6238.2**	**8962.8**
Stddev	740.	118.	12.1	14.6
%RSD	.54073	.46622	.19417	.16249
#1	136030.	25285.	6234.2	8958.9
#2	137030.	25509.	6228.6	8950.6
#3	137470.	25332.	6251.8	8978.9

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 18:18:46 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0000**	**-.0001**	**-.0003**	**-.0001**	**-.0001**	**.0000**	**-.0002**	**-.0004**
Stddev	.0004	.0000	.0001	.0002	.0003	.0002	.0001	.0001	.0002
%RSD	153.8	81.04	157.6	60.13	208.8	288.7	1716.	47.48	58.89
#1	-.0005	-.0001	-.0002	-.0003	.0001	-.0001	.0000	-.0003	-.0001
#2	.0002	-.0000	.0001	-.0005	-.0001	-.0003	-.0001	-.0002	-.0005
#3	-.0004	-.0001	-.0001	-.0001	-.0005	.0001	.0001	-.0001	-.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0003**	**.0002**	**-.0003**	**.0003**	**-.0009**	**.0003**	**.0036**	**-.0021**
Stddev	.0002	.0001	.0004	.0001	.0008	.0009	.0012	.0033	.0010
%RSD	45.87	32.23	195.4	44.11	288.9	106.6	387.2	91.15	46.09
#1	-.0004	.0003	.0003	-.0002	-.0003	-.0018	-.0001	.0046	-.0019
#2	-.0002	.0002	.0006	-.0002	.0000	-.0009	.0017	-.0001	-.0031
#3	-.0006	.0003	-.0002	-.0004	.0011	.0001	-.0007	.0064	-.0012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0015**	**-.0072**	**.1809**	**.0731**	**.0026**	**.0003**	**-.0007**	**-.0007**	**.0001**
Stddev	.0009	.0170	.0277	.0033	.0007	.0002	.0009	.0006	.0001
%RSD	58.58	236.3	15.30	4.460	25.71	60.44	116.5	84.19	109.7
#1	.0016	.0073	.2078	.0693	.0027	.0003	-.0001	-.0001	.0000
#2	.0006	-.0259	.1824	.0748	.0033	.0004	-.0003	-.0013	.0002
#3	.0023	-.0030	.1525	.0751	.0019	.0001	-.0017	-.0007	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 18:18:46 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0018**	**.0002**	**.0018**	**.0007**	**-.0002**	**.0184**
Stddev	.0001	.0004	.0001	.0021	.0016	.0024	.0006
%RSD	48.40	22.07	30.65	116.5	223.2	1024.	3.208
#1	.0001	.0015	.0003	.0014	.0024	-.0029	.0177
#2	.0003	.0016	.0003	-.0000	-.0008	.0015	.0186
#3	.0003	.0023	.0002	.0041	.0006	.0007	.0188
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143610.**	**25606.**	**6494.5**	**9873.7**
Stddev	485.	220.	6.8	6.7
%RSD	.33760	.86086	.10430	.06741
#1	144090.	25850.	6495.1	9867.6
#2	143120.	25421.	6500.9	9872.5
#3	143620.	25547.	6487.4	9880.8

Zoom In Zoom Out

Sample Name: jc86634-5 1 Acquired: 4/22/2019 18:23:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14421

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0139**	**-.0058**	W **-.3151**	**.4729**	**.0319**	**.0807**	**129.7**	**.4163**
Stddev	.0197	.0041	.0302	.0316	.0242	.0314	.7	.0141
%RSD	142.1	70.20	9.582	6.681	76.00	38.92	.5686	3.395
#1	.0328	-.0012	-.2836	.4645	.0480	.0676	130.2	.4149
#2	-.0066	-.0089	-.3177	.5078	.0436	.1165	129.9	.4029
#3	.0155	-.0073	-.3438	.4463	.0040	.0579	128.8	.4311

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0587**	**.0722**	**.8384**	**512.8**	**-.0446**	**.0324**	**-.2064**	**.0169**
Stddev	.0229	.0243	.0025	5.8	.1165	.0879	.0326	.1235
%RSD	38.98	33.63	.2986	1.138	261.2	271.0	15.78	730.8
#1	-.0422	.0909	.8365	507.4	.0408	.1271	-.1692	-.1186
#2	-.0490	.0810	.8412	519.0	-.1774	.0167	-.2296	.0461
#3	-.0848	.0448	.8374	512.1	.0027	-.0465	-.2205	.1232

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.140**	**644.9**	**210.9**	**239.9**	**27.44**	**270.7**	**1.436**	**.0196**
Stddev	.431	2.8	.7	2.8	.67	2.1	.077	.0154
%RSD	13.74	.4392	.3433	1.184	2.438	.7608	5.383	78.61
#1	3.044	647.8	211.7	242.9	26.75	272.5	1.432	.0347
#2	3.611	642.1	210.3	239.5	27.50	271.0	1.516	.0201
#3	2.764	644.9	210.8	237.3	28.08	268.5	1.361	.0039

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**34.55**	**-.0163**	**.5765**	**.0041**	**-.0051**	**.0132**	**791.8**	**.1899**
Stddev	.53	.0670	.0096	.0185	.0861	.0072	9.3	.1200
%RSD	1.540	410.0	1.665	451.1	1680.	54.19	1.179	63.21
#1	34.07	.0167	.5864	.0254	.0640	.0051	782.6	.0905
#2	35.12	.0277	.5672	-.0079	-.1016	.0157	801.3	.1560
#3	34.46	-.0934	.5758	-.0052	.0222	.0188	791.4	.3232

Zoom In Zoom Out

Sample Name: jc86634-5 1 Acquired: 4/22/2019 18:23:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14421

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0618**	**2.716**
Stddev	.1053	.215
%RSD	170.3	7.901
#1	-.1772	2.835
#2	.0290	2.468
#3	-.0372	2.845

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146620.**	**26225.**	**6560.2**	**9833.8**
Stddev	564.	268.	57.2	68.4
%RSD	.38443	1.0206	.87120	.69553
#1	146420.	26007.	6612.9	9902.7
#2	146190.	26524.	6499.5	9766.0
#3	147260.	26145.	6568.4	9832.6

Zoom In Zoom Out

Sample Name: jc86634-1f Acquired: 4/22/2019 18:28:53 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0604**	**-.0040**	**-.0130**	**.3570**	**.0369**	**.0049**	**20.16**	**.4461**	**-.0442**
Stddev	.0339	.0022	.0090	.0084	.0199	.0078	.16	.0303	.0393
%RSD	56.06	55.27	69.77	2.363	54.06	160.8	.8107	6.799	88.84
#1	.0599	-.0028	-.0212	.3476	.0290	.0067	20.31	.4396	-.0050
#2	.0945	-.0066	-.0033	.3639	.0221	.0116	20.18	.4791	-.0835
#3	.0268	-.0026	-.0145	.3595	.0596	-.0037	19.99	.4195	-.0441

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0188**	**3.208**	**.1153**	**-.0357**	**.0145**	**-.1662**	**.1652**	**2.242**	**517.6**
Stddev	.0352	.000	.0681	.0761	.0181	.1749	.1211	.824	1.7
%RSD	187.1	.0136	59.09	213.1	124.8	105.2	73.30	36.76	.3287
#1	-.0028	3.209	.0376	-.1234	-.0055	-.1377	.0670	3.152	519.3
#2	-.0591	3.208	.1434	.0122	.0194	-.0073	.1280	2.031	517.7
#3	.0055	3.208	.1648	.0042	.0296	-.3536	.3005	1.544	515.9

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1392.**	**139.3**	**16.70**	**860.1**	**2.354**	**-.0032**	**13.77**	**-.0160**	**2.554**
Stddev	5.	.6	4.21	3.0	.024	.0192	.10	.0484	.016
%RSD	.3869	.4548	25.22	.3450	1.030	591.3	.7216	301.6	.6427
#1	1394.	138.9	11.87	861.4	2.370	.0111	13.66	-.0006	2.560
#2	1395.	140.0	18.64	862.2	2.326	-.0250	13.85	-.0702	2.566
#3	1386.	139.0	19.59	856.7	2.367	.0042	13.80	.0227	2.535

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0101**	**.0727**	**.0112**	**1098.**	**.0888**	**-.2326**	**1.453**
Stddev	.0084	.0434	.0125	3.	.0643	.2061	.091
%RSD	82.88	59.65	111.5	.2832	72.46	88.62	6.271
#1	.0172	.0706	.0090	1102.	.1566	-.2250	1.372
#2	.0123	.1171	-.0000	1096.	.0287	-.0304	1.552
#3	.0009	.0304	.0247	1097.	.0809	-.4424	1.434

Zoom In Zoom Out

Sample Name: jc86634-1f Acquired: 4/22/2019 18:28:53 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144310.**	**25685.**	**6491.6**	**9701.5**
Stddev	377.	38.	10.4	7.9
%RSD	.26097	.14898	.16071	.08096
#1	143990.	25667.	6501.6	9709.9
#2	144200.	25660.	6480.8	9694.4
#3	144720.	25729.	6492.3	9700.2

Zoom In Zoom Out

Sample Name: jc86634-2f Acquired: 4/22/2019 18:33:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0042**	**-.0040**	**-.0007**	**1.061**	**-.0169**	**-.0235**	**34.51**	**1.414**	**-.0231**
Stddev	.0278	.0032	.0253	.011	.0027	.0280	.02	.007	.0704
%RSD	668.7	79.50	3382.	1.044	15.90	119.2	.0566	.4830	304.4
#1	.0265	-.0018	.0053	1.050	-.0191	-.0559	34.53	1.407	.0567
#2	-.0113	-.0077	-.0285	1.072	-.0178	-.0071	34.50	1.414	-.0763
#3	-.0277	-.0026	.0209	1.062	-.0139	-.0075	34.50	1.421	-.0499

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0163**	**10.52**	**3.283**	**-.1226**	**-.0475**	**-.0338**	**-.0167**	**4.395**	**88.78**
Stddev	.0290	.02	.057	.0882	.0630	.2132	.0825	.461	.31
%RSD	177.6	.1734	1.746	71.91	132.5	630.4	494.3	10.49	.3490
#1	.0313	10.52	3.280	-.1740	-.1102	-.2069	-.0811	3.880	88.44
#2	-.0171	10.51	3.228	-.1731	.0157	.2044	-.0453	4.769	89.04
#3	.0347	10.54	3.342	-.0208	-.0481	-.0989	.0763	4.536	88.87

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4446.**	**243.0**	**12.08**	**204.1**	**3.701**	**.0289**	**6.074**	**-.0189**	**.3178**
Stddev	2.	2.4	4.64	.5	.025	.0150	.149	.0228	.0070
%RSD	.0502	.9929	38.44	.2310	.6813	51.74	2.454	120.2	2.193
#1	4444.	241.4	11.18	204.2	3.706	.0144	5.969	.0070	.3193
#2	4447.	241.8	17.11	204.5	3.674	.0282	6.007	-.0353	.3102
#3	4448.	245.8	7.956	203.6	3.723	.0443	6.244	-.0286	.3238

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0169**	**.0494**	**.0116**	**2839.**	**.1448**	**-.2351**	**1.624**
Stddev	.0185	.1190	.0154	6.	.0637	.0554	.286
%RSD	109.3	241.0	132.4	.1962	44.02	23.54	17.60
#1	-.0002	-.0869	.0054	2845.	.0934	-.2795	1.559
#2	.0144	.1328	.0292	2839.	.1249	-.2528	1.936
#3	.0366	.1022	.0003	2834.	.2161	-.1731	1.376

Zoom In Zoom Out

Sample Name: jc86634-2f Acquired: 4/22/2019 18:33:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144330.**	**25832.**	**6536.6**	**9847.3**
Stddev	671.	56.	23.4	28.6
%RSD	.46516	.21784	.35777	.29076
#1	143810.	25856.	6561.8	9878.8
#2	145090.	25768.	6532.5	9840.0
#3	144080.	25872.	6515.5	9822.9

Zoom In Zoom Out

Sample Name: jc86634-3f Acquired: 4/22/2019 18:38:56 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0076**	**-.0000**	W **-.1449**	**1.235**	**-.0185**	**.0909**	**79.50**	**1.430**
Stddev	.0275	.0036	.0065	.022	.0335	.0380	.01	.033
%RSD	361.4	7402.	4.509	1.752	181.3	41.77	.0106	2.329
#1	.0324	-.0032	-.1388	1.249	.0192	.0994	79.50	1.468
#2	-.0219	.0039	-.1442	1.246	-.0449	.1240	79.51	1.413
#3	.0123	-.0009	-.1518	1.210	-.0298	.0494	79.50	1.408

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0239**	**.1013**	**11.82**	**314.4**	**-.1089**	**.1084**	**-.1756**	**.0169**
Stddev	.0132	.0300	.03	.7	.1653	.1317	.1028	.0194
%RSD	55.22	29.63	.2879	.2223	151.8	121.4	58.52	114.7
#1	.0138	.0711	11.86	314.8	-.2822	-.0098	-.0576	.0012
#2	.0190	.1311	11.80	314.9	-.0913	.0847	-.2454	.0386
#3	.0389	.1017	11.80	313.6	.0470	.2504	-.2238	.0109

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**29.91**	**469.7**	**4659.**	**339.0**	**30.39**	**420.5**	**3.240**	**.0165**
Stddev	.27	2.8	25.	1.6	1.47	1.8	.068	.0156
%RSD	.9129	.5868	.5430	.4688	4.830	.4170	2.104	94.38
#1	30.13	470.4	4670.	340.4	30.80	421.5	3.256	-.0014
#2	30.00	471.9	4678.	339.4	31.60	421.5	3.165	.0271
#3	29.61	466.6	4630.	337.3	28.76	418.5	3.298	.0238

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**42.65**	**-.0450**	**2.130**	**.0055**	**.0228**	**-.0202**	**3438.**	**.2298**
Stddev	.14	.0277	.007	.0289	.0319	.0057	9.	.0469
%RSD	.3235	61.55	.3176	528.6	139.9	28.14	.2559	20.43
#1	42.55	-.0405	2.137	-.0275	.0476	-.0197	3443.	.1773
#2	42.59	-.0747	2.127	.0176	.0338	-.0147	3443.	.2677
#3	42.81	-.0198	2.125	.0263	-.0131	-.0261	3428.	.2443

Zoom In Zoom Out

Sample Name: jc86634-3f Acquired: 4/22/2019 18:38:56 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.2908**	**2.108**
Stddev	.2118	.510
%RSD	72.83	24.19
#1	-.1457	2.602
#2	-.1929	1.583
#3	-.5338	2.140

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144280.**	**25914.**	**6494.5**	**9758.6**
Stddev	464.	58.	28.7	32.9
%RSD	.32154	.22364	.44157	.33736
#1	144380.	25965.	6465.4	9722.5
#2	144700.	25851.	6522.7	9787.0
#3	143780.	25926.	6495.4	9766.2

Zoom In Zoom Out

Sample Name: jc86634-4f Acquired: 4/22/2019 18:43:56 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0057**	**-.0079**	F **-1.027**	**1.330**	**-.0272**	**.1805**	**24.94**	**2.288**
Stddev	.0199	.0053	.014	.022	.0255	.0163	.04	.028
%RSD	350.8	67.79	1.401	1.668	93.92	9.034	.1417	1.222
#1	.0031	-.0034	-1.010	1.324	-.0399	.1635	24.90	2.267
#2	-.0284	-.0138	-1.036	1.355	-.0438	.1819	24.97	2.320
#3	.0083	-.0065	-1.035	1.312	.0022	.1960	24.94	2.278

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0165**	**-.0329**	**9.302**	F **3108.**	**-.1416**	**.0293**	**-.1218**	**3.490**
Stddev	.0455	.0273	.018	1.	.0579	.1394	.0913	.105
%RSD	275.0	83.06	.1943	.0199	40.89	475.8	74.96	3.008
#1	-.0288	-.0613	9.285	3107.	-.0821	.0059	-.0869	3.547
#2	.0162	-.0304	9.299	3109.	-.1450	-.0969	-.2254	3.369
#3	.0621	-.0068	9.321	3108.	-.1978	.1789	-.0531	3.554

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.370**	**450.0**	**2623.**	**588.4**	**44.58**	**259.0**	**2.960**	**.0053**
Stddev	.778	.9	2.	1.7	2.05	.2	.003	.0163
%RSD	8.305	.1903	.0921	.2875	4.607	.0637	.1009	310.5
#1	10.22	449.3	2622.	588.3	44.02	259.0	2.958	-.0127
#2	9.182	449.7	2621.	586.7	46.86	259.1	2.963	.0191
#3	8.702	450.9	2626.	590.1	42.87	258.8	2.959	.0094

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.68**	**-.0496**	**1.397**	**.0598**	**-.4373**	**.0680**	**2351.**	**.0794**
Stddev	.24	.0592	.011	.0226	.0512	.0082	7.	.1038
%RSD	.4804	119.3	.7598	37.75	11.71	12.01	.3102	130.7
#1	50.40	-.0847	1.385	.0348	-.4616	.0586	2355.	-.0050
#2	50.84	.0187	1.402	.0786	-.3785	.0730	2356.	.1953
#3	50.81	-.0829	1.405	.0660	-.4717	.0724	2343.	.0480

Zoom In Zoom Out

Sample Name: jc86634-4f Acquired: 4/22/2019 18:43:56 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.4043**	**1.842**
Stddev	.1817	.286
%RSD	44.94	15.55
#1	.2386	1.829
#2	.5986	1.563
#3	.3758	2.135

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144860.**	**25832.**	**6539.1**	**9819.7**
Stddev	113.	44.	9.7	14.8
%RSD	.07797	.16870	.14782	.15067
#1	144850.	25824.	6545.0	9836.3
#2	144760.	25878.	6544.4	9814.8
#3	144990.	25792.	6528.0	9807.9

Zoom In Zoom Out

Sample Name: jc86634-5f Acquired: 4/22/2019 18:48:55 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0138**	**-.0037**	W **-.2414**	**.4779**	**.0240**	**.0691**	**127.9**	**.4065**
Stddev	.0150	.0034	.0108	.0094	.0212	.0211	.5	.0106
%RSD	108.7	89.88	4.481	1.957	88.34	30.48	.3582	2.603
#1	-.0034	-.0008	-.2387	.4678	.0407	.0865	128.5	.4019
#2	.0210	-.0030	-.2322	.4862	.0312	.0457	127.7	.3989
#3	.0238	-.0074	-.2533	.4797	.0001	.0752	127.6	.4186

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0306**	**.0674**	**.6658**	**447.4**	**-.0095**	**-.0364**	**-.1797**	**.2255**
Stddev	.0424	.0204	.0095	1.5	.0620	.0819	.0953	.0398
%RSD	138.4	30.34	1.421	.3260	651.9	225.1	53.01	17.65
#1	-.0244	.0862	.6699	447.5	-.0001	.0474	-.1084	.1813
#2	-.0757	.0456	.6725	448.8	.0472	-.0403	-.2879	.2366
#3	.0083	.0702	.6549	445.9	-.0757	-.1163	-.1428	.2585

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0202**	**639.1**	**163.7**	**237.8**	**20.32**	**266.3**	**1.218**	**.0152**
Stddev	.7721	2.2	.4	1.4	4.23	.2	.084	.0401
%RSD	3819.	.3398	.2626	.5846	20.82	.0638	6.904	264.4
#1	-.7505	636.7	163.2	236.7	24.65	266.2	1.175	-.0221
#2	.7936	640.9	164.0	237.3	20.13	266.3	1.164	.0576
#3	.0175	639.6	163.8	239.4	16.19	266.5	1.315	.0100

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**33.87**	**-.0516**	**.5778**	**.0074**	**-.0105**	**.0095**	**775.6**	**.1747**
Stddev	.36	.0291	.0058	.0098	.0686	.0152	2.5	.1722
%RSD	1.065	56.45	1.007	132.6	651.3	160.4	.3175	98.56
#1	33.84	-.0184	.5758	.0054	.0143	-.0079	774.1	.0718
#2	34.25	-.0729	.5843	.0180	.0421	.0160	778.5	.3735
#3	33.53	-.0634	.5732	-.0013	-.0881	.0203	774.3	.0788

Zoom In Zoom Out

Sample Name: jc86634-5f Acquired: 4/22/2019 18:48:55 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0030**	**1.837**
Stddev	.1511	.180
%RSD	5027.	9.814
#1	.0598	1.774
#2	.1176	1.696
#3	-.1683	2.040

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**145910.**	**25961.**	**6573.2**	**9862.8**
Stddev	417.	179.	42.3	48.5
%RSD	.28598	.69077	.64337	.49163
#1	145450.	26153.	6570.4	9858.8
#2	146010.	25932.	6532.3	9816.5
#3	146260.	25798.	6616.8	9913.2

Zoom In Zoom Out

Sample Name: mp14455-b1 Acquired: 4/22/2019 18:53:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.071**	**2.002**	**2.066**	**2.039**	**1.998**	**2.016**	**2.051**	**2.061**	**.0858**
Stddev	.007	.006	.004	.003	.004	.002	.010	.001	.0005
%RSD	.3572	.3036	.1941	.1333	.1899	.1124	.4746	.0593	.6049
#1	2.063	1.996	2.065	2.040	1.997	2.014	2.043	2.062	.0853
#2	2.075	2.003	2.070	2.036	1.995	2.017	2.061	2.060	.0864
#3	2.077	2.008	2.062	2.042	2.003	2.018	2.048	2.062	.0857

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.979**	**2.044**	**2.070**	**2.164**	**2.076**	**2.105**	**2.107**	**25.46**	**25.68**
Stddev	.003	.004	.003	.004	.003	.002	.001	.07	.08
%RSD	.1463	.1867	.1418	.1662	.1480	.0718	.0359	.2921	.3054
#1	1.976	2.040	2.069	2.168	2.074	2.103	2.108	25.38	25.61
#2	1.982	2.048	2.073	2.162	2.074	2.106	2.107	25.48	25.68
#3	1.980	2.044	2.067	2.162	2.079	2.104	2.107	25.52	25.76

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.98**	**25.58**	**25.89**	**26.73**	**2.093**	**2.076**	**.0096**	**2.088**	**2.063**
Stddev	.07	.07	.15	.03	.002	.002	.0009	.005	.003
%RSD	.2851	.2894	.5717	.1185	.1097	.0979	9.551	.2487	.1390
#1	24.90	25.53	25.72	26.73	2.091	2.074	.0092	2.083	2.060
#2	24.99	25.55	25.94	26.76	2.095	2.078	.0107	2.093	2.065
#3	25.04	25.66	25.99	26.70	2.092	2.075	.0090	2.087	2.065

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.047**	**1.969**	**2.053**	**.0254**	**.1286**	**-.0045**	**2.009**
Stddev	.005	.003	.005	.0028	.0019	.0026	.010
%RSD	.2317	.1728	.2271	10.96	1.446	57.60	.4825
#1	2.042	1.966	2.048	.0226	.1276	-.0031	2.019
#2	2.051	1.973	2.055	.0255	.1276	-.0029	2.001
#3	2.049	1.968	2.056	.0281	.1308	-.0074	2.006

Zoom In Zoom Out

Sample Name: mp14455-b1 Acquired: 4/22/2019 18:53:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142770.**	**26050.**	**6482.0**	**9424.7**
Stddev	177.	256.	16.5	20.0
%RSD	.12430	.98329	.25415	.21239
#1	142600.	26260.	6500.7	9444.0
#2	142950.	26124.	6469.4	9426.1
#3	142760.	25764.	6476.0	9404.0

Zoom In Zoom Out

Sample Name: mp14455-mb1 1 Acquired: 4/22/2019 18:58:55 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0000**	**-.0001**	**-.0002**	**-.0000**	**.0003**	**.0004**	**.0001**	**-.0004**
Stddev	.0004	.0000	.0001	.0001	.0003	.0001	.0000	.0004	.0001
%RSD	443.4	65.57	181.5	91.36	1770.	25.52	11.91	257.6	23.48
#1	.0003	-.0000	-.0002	-.0003	-.0003	.0004	.0004	.0005	-.0005
#2	-.0006	-.0000	.0001	-.0000	-.0001	.0003	.0003	.0001	-.0005
#3	-.0000	-.0000	-.0001	-.0002	.0003	.0003	.0004	-.0002	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**.0064**	**.0019**	**.0011**	**.0000**	**-.0025**	**-.0011**	**-.0016**	**.0032**
Stddev	.0002	.0002	.0009	.0002	.0011	.0022	.0006	.0070	.0016
%RSD	33.33	3.391	47.84	22.17	2477.	87.12	50.57	430.1	49.57
#1	-.0009	.0062	.0022	.0009	-.0013	-.0010	-.0008	.0064	.0023
#2	-.0007	.0065	.0027	.0013	.0007	-.0050	-.0008	-.0044	.0051
#3	-.0004	.0065	.0009	.0009	.0007	-.0015	-.0018	-.0068	.0023

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**-.0014**	**-.0002**	**.0156**	**.0014**	**.0002**	**.0004**	**-.0009**	**.0000**
Stddev	.0018	.0045	.0407	.0067	.0004	.0001	.0010	.0003	.0001
%RSD	297.6	314.4	18580.	42.64	26.94	75.05	268.7	30.53	676.8
#1	.0023	.0015	.0425	.0180	.0013	.0002	-.0000	-.0006	.0001
#2	-.0013	.0008	-.0044	.0081	.0011	.0003	-.0004	-.0008	-.0000
#3	.0009	-.0066	-.0387	.0209	.0018	.0000	.0014	-.0012	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0019**	**.0003**	**.0093**	**.0021**	**-.0023**	**.0120**
Stddev	.0002	.0006	.0002	.0006	.0008	.0024	.0015
%RSD	128.6	31.76	63.53	6.139	37.14	107.3	12.64
#1	-.0000	.0017	.0004	.0087	.0015	-.0051	.0137
#2	.0001	.0014	.0001	.0099	.0017	-.0010	.0109
#3	.0003	.0026	.0003	.0092	.0029	-.0008	.0113

Zoom In Zoom Out

Sample Name: mp14455-mb1 1 Acquired: 4/22/2019 18:58:55 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**149110.**	**26448.**	**6682.5**	**10269.**
Stddev	510.	158.	5.6	13.
%RSD	.34224	.59646	.08387	.12218
#1	149610.	26266.	6687.9	10283.
#2	149120.	26548.	6676.7	10260.
#3	148590.	26531.	6682.8	10264.

Zoom In Zoom Out

Sample Name: mp14455-s1 Acquired: 4/22/2019 19:04:02 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.109**	**2.024**	**2.078**	**2.057**	**2.000**	**2.033**	**2.040**	**2.076**	**.0870**
Stddev	.006	.006	.002	.002	.007	.008	.015	.001	.0003
%RSD	.2920	.2914	.0730	.0709	.3470	.3843	.7304	.0641	.2971
#1	2.115	2.029	2.079	2.056	1.993	2.025	2.051	2.074	.0867
#2	2.103	2.017	2.079	2.058	1.999	2.033	2.023	2.076	.0869
#3	2.110	2.027	2.076	2.057	2.007	2.040	2.047	2.077	.0872

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.011**	**2.022**	**2.136**	**2.094**	**2.064**	**2.121**	**2.122**	**25.67**	F **217.3**
Stddev	.004	.002	.001	.002	.002	.003	.003	.07	4.4
%RSD	.1725	.0948	.0416	.0953	.0822	.1380	.1360	.2846	2.042
#1	2.008	2.024	2.136	2.096	2.066	2.122	2.121	25.71	220.5
#2	2.011	2.021	2.135	2.092	2.065	2.118	2.119	25.58	212.3
#3	2.015	2.021	2.137	2.095	2.063	2.124	2.125	25.70	219.2

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.08**	**75.38**	**34.47**	**168.0**	**2.577**	**2.133**	**17.26**	**2.042**	**2.780**
Stddev	.04	.26	.06	1.3	.004	.001	.01	.004	.017
%RSD	.1513	.3415	.1799	.7970	.1470	.0292	.0459	.2207	.6220
#1	25.11	75.42	34.50	167.0	2.578	2.134	17.26	2.047	2.790
#2	25.04	75.10	34.39	167.5	2.580	2.132	17.25	2.042	2.760
#3	25.10	75.61	34.51	169.5	2.573	2.133	17.27	2.038	2.790

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.068**	**2.000**	**2.076**	**19.13**	**.1321**	**.0500**	**2.057**
Stddev	.001	.004	.003	.03	.0015	.0017	.015
%RSD	.0594	.2238	.1643	.1803	1.114	3.430	.7317
#1	2.067	2.005	2.073	19.16	.1334	.0519	2.075
#2	2.067	1.999	2.076	19.09	.1305	.0485	2.047
#3	2.069	1.997	2.080	19.13	.1324	.0497	2.050

Zoom In Zoom Out

Sample Name: mp14455-s1 Acquired: 4/22/2019 19:04:02 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**134400.**	**25522.**	**6097.0**	**8581.7**
Stddev	188.	206.	6.9	2.6
%RSD	.14016	.80793	.11315	.03027
#1	134580.	25514.	6089.2	8579.8
#2	134420.	25732.	6099.6	8580.7
#3	134210.	25320.	6102.2	8584.6

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 19:09:22 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.083**	**2.019**	**2.020**	**2.050**	**2.018**	**2.024**	**2.048**	**2.070**	**.2511**
Stddev	.008	.005	.001	.003	.006	.005	.003	.001	.0006
%RSD	.3840	.2283	.0538	.1571	.2759	.2500	.1556	.0587	.2305
#1	2.090	2.023	2.021	2.053	2.024	2.030	2.044	2.070	.2517
#2	2.074	2.014	2.019	2.049	2.013	2.020	2.048	2.069	.2506
#3	2.085	2.021	2.020	2.047	2.018	2.023	2.051	2.071	.2508
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.001**	**2.028**	**2.042**	**2.113**	**2.057**	**2.041**	**2.041**	**40.38**	**40.63**
Stddev	.004	.001	.004	.002	.004	.004	.002	.06	.08
%RSD	.2078	.0321	.1858	.1151	.1826	.1800	.0889	.1538	.1984
#1	2.005	2.028	2.042	2.115	2.061	2.044	2.042	40.44	40.69
#2	1.997	2.027	2.038	2.110	2.056	2.037	2.041	40.32	40.53
#3	2.000	2.028	2.046	2.114	2.054	2.042	2.039	40.39	40.66
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.68**	**40.25**	**41.05**	**41.68**	**2.065**	**2.073**	**5.321**	**2.046**	**2.075**
Stddev	.05	.05	.07	.04	.001	.002	.006	.002	.003
%RSD	.1328	.1276	.1744	.0891	.0572	.1000	.1219	.1066	.1598
#1	39.73	40.24	41.13	41.67	2.066	2.075	5.328	2.047	2.077
#2	39.63	40.30	41.03	41.72	2.064	2.071	5.315	2.044	2.071
#3	39.68	40.20	41.00	41.65	2.066	2.073	5.321	2.048	2.076
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 19:09:22 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.050**	**2.025**	**2.058**	**2.003**	**2.083**	**2.019**	**1.973**
Stddev	.004	.003	.002	.003	.006	.005	.002
%RSD	.1814	.1371	.1087	.1415	.2682	.2698	.1113
#1	2.054	2.028	2.060	2.005	2.089	2.021	1.973
#2	2.047	2.023	2.056	1.999	2.079	2.013	1.971
#3	2.048	2.024	2.057	2.004	2.081	2.024	1.975
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**136400.**	**25062.**	**6220.1**	**8936.2**
Stddev	762.	133.	3.4	.8
%RSD	.55831	.52971	.05539	.00941
#1	135550.	25156.	6218.4	8936.0
#2	137010.	24911.	6224.1	8937.1
#3	136650.	25120.	6217.8	8935.5

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 19:14:24 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0000**	**-.0000**	**-.0002**	**.0002**	**.0002**	**.0000**	**-.0000**	**-.0005**
Stddev	.0002	.0001	.0001	.0002	.0002	.0001	.0001	.0001	.0002
%RSD	592.3	2797.	386.2	69.00	86.41	50.60	1097.	377.4	44.39
#1	.0002	-.0001	-.0001	-.0002	.0004	.0003	.0000	.0001	-.0007
#2	-.0001	.0000	.0001	-.0004	.0002	.0001	-.0001	-.0001	-.0006
#3	-.0002	.0000	-.0000	-.0001	.0001	.0001	.0001	-.0001	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0005**	**.0002**	**.0003**	**-.0001**	**-.0008**	**.0012**	**-.0052**	**-.0008**
Stddev	.0003	.0001	.0014	.0008	.0013	.0017	.0012	.0049	.0023
%RSD	97.01	20.87	759.9	268.8	1540.	229.5	101.5	94.13	294.4
#1	-.0005	.0004	-.0007	.0004	-.0015	-.0005	.0001	-.0086	.0007
#2	-.0005	.0005	.0018	-.0005	.0002	.0008	.0025	-.0073	-.0034
#3	.0000	.0006	-.0006	.0010	.0010	-.0026	.0010	.0004	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0015**	**.1703**	**.1022**	**.0041**	**.0004**	**-.0004**	**-.0009**	**-.0001**
Stddev	.0002	.0020	.0321	.0167	.0007	.0001	.0005	.0005	.0001
%RSD	29.45	134.0	18.86	16.36	17.58	35.00	124.3	51.15	123.4
#1	.0007	.0021	.1950	.1213	.0048	.0005	-.0007	-.0014	-.0001
#2	.0009	.0031	.1819	.0951	.0033	.0005	-.0007	-.0005	-.0002
#3	.0005	-.0008	.1340	.0901	.0041	.0002	.0002	-.0007	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 19:14:24 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0027**	**.0002**	**.0031**	**.0003**	**.0001**	**.0138**
Stddev	.0002	.0010	.0001	.0009	.0012	.0009	.0045
%RSD	155.4	35.65	61.14	27.84	356.6	597.0	32.66
#1	.0000	.0021	.0001	.0022	.0012	.0002	.0184
#2	.0003	.0039	.0004	.0039	.0008	-.0008	.0094
#3	.0000	.0023	.0003	.0031	-.0010	.0010	.0136
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144250.**	**25508.**	**6421.8**	**9771.6**
Stddev	202.	270.	149.9	198.0
%RSD	.14009	1.0598	2.3342	2.0262
#1	144130.	25809.	6512.3	9891.6
#2	144490.	25285.	6504.3	9880.1
#3	144140.	25430.	6248.8	9543.1

Zoom In Zoom Out

Sample Name: mp14455-s2 1 Acquired: 4/22/2019 19:19:32 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.108**	**2.022**	**2.072**	**2.053**	**1.999**	**2.031**	**2.045**	**2.074**	**.0877**
Stddev	.003	.005	.002	.001	.009	.004	.018	.002	.0002
%RSD	.1531	.2376	.1142	.0634	.4288	.1911	.8581	.1181	.2178
#1	2.104	2.018	2.072	2.053	2.001	2.034	2.032	2.075	.0875
#2	2.111	2.027	2.074	2.054	1.989	2.027	2.037	2.075	.0878
#3	2.108	2.020	2.070	2.052	2.006	2.032	2.065	2.071	.0878

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.007**	**2.016**	**2.136**	**2.086**	**2.061**	**2.119**	**2.120**	**25.69**	F **220.5**
Stddev	.003	.001	.005	.005	.001	.002	.003	.03	5.9
%RSD	.1631	.0651	.2214	.2338	.0649	.0864	.1350	.1267	2.660
#1	2.008	2.017	2.130	2.083	2.061	2.120	2.119	25.67	213.8
#2	2.004	2.017	2.139	2.092	2.062	2.120	2.123	25.72	223.1
#3	2.010	2.015	2.138	2.084	2.060	2.117	2.118	25.67	224.6

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.04**	**76.54**	**34.80**	**169.2**	**2.584**	**2.136**	**17.63**	**2.037**	**2.798**
Stddev	.04	.14	.03	3.6	.006	.001	.02	.001	.009
%RSD	.1664	.1796	.0950	2.123	.2228	.0660	.1216	.0685	.3270
#1	25.01	76.42	34.76	172.6	2.581	2.134	17.61	2.036	2.802
#2	25.09	76.69	34.80	169.3	2.591	2.137	17.65	2.039	2.804
#3	25.03	76.51	34.82	165.5	2.581	2.136	17.63	2.037	2.787

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.070**	**2.015**	**2.077**	**19.62**	**.1316**	**.0520**	**2.114**
Stddev	.002	.002	.003	.02	.0017	.0022	.011
%RSD	.1093	.0845	.1418	.0855	1.271	4.176	.4950
#1	2.068	2.013	2.077	19.61	.1299	.0498	2.120
#2	2.070	2.015	2.075	19.60	.1333	.0522	2.101
#3	2.073	2.016	2.081	19.63	.1318	.0541	2.119

Zoom In Zoom Out

Sample Name: mp14455-s2 1 Acquired: 4/22/2019 19:19:32 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**133920.**	**25409.**	**6109.3**	**8585.5**
Stddev	447.	189.	3.3	5.4
%RSD	.33409	.74339	.05333	.06302
#1	133970.	25528.	6106.1	8581.2
#2	134340.	25192.	6112.6	8591.6
#3	133450.	25508.	6109.0	8583.8

Zoom In Zoom Out

Sample Name: jc86049-1 Acquired: 4/22/2019 19:24:52 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0252**	**.0003**	**-.0001**	**-.0004**	**.0006**	**.0090**	**.0170**	**.0001**
Stddev	.0002	.0000	.0001	.0003	.0002	.0002	.0000	.0001
%RSD	.8167	18.73	241.4	64.71	27.24	2.446	.1914	130.2
#1	.0250	.0002	.0001	-.0002	.0006	.0090	.0170	.0002
#2	.0251	.0003	-.0002	-.0007	.0008	.0092	.0170	-.0001
#3	.0254	.0003	-.0001	-.0003	.0005	.0088	.0170	.0002

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0028**	**.0087**	**.0102**	**.0021**	**.0004**	**-.0014**	F **-.0037**
Stddev	.0002	.0002	.0001	.0009	.0007	.0008	.0024	.0003
%RSD	108.4	7.948	.9863	8.790	31.93	179.1	172.7	8.570
#1	-.0002	.0030	.0088	.0104	.0025	-.0005	.0002	-.0036
#2	-.0003	.0027	.0087	.0111	.0013	.0010	-.0041	-.0034
#3	.0000	.0026	.0086	.0093	.0025	.0008	-.0002	-.0041

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0383**	**198.8**	**.2370**	**51.76**	**8.350**	**145.8**	**.5121**	**.0517**
Stddev	.0061	2.1	.0017	.12	.038	.5	.0005	.0005
%RSD	15.84	1.039	.7342	.2381	.4580	.3739	.0940	1.010
#1	.0347	198.1	.2382	51.72	8.355	146.0	.5115	.0511
#2	.0453	201.1	.2378	51.89	8.385	146.2	.5125	.0519
#3	.0349	197.2	.2350	51.66	8.309	145.2	.5122	.0521

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**17.61**	**-.0040**	**.7389**	**.0003**	**.0013**	**-.0011**	**19.81**	**.0002**
Stddev	.02	.0003	.0002	.0001	.0010	.0002	.03	.0008
%RSD	.0983	6.268	.0329	26.87	70.76	23.27	.1277	352.0
#1	17.59	-.0039	.7387	.0003	.0014	-.0008	19.79	.0012
#2	17.61	-.0039	.7392	.0002	.0004	-.0011	19.84	-.0004
#3	17.62	-.0043	.7390	.0003	.0023	-.0013	19.80	-.0001

Zoom In Zoom Out

Sample Name: jc86049-1 Acquired: 4/22/2019 19:24:52 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**.0529**	**.0491**
Stddev	.0015	.0010
%RSD	2.894	1.994
#1	.0517	.0481
#2	.0525	.0500
#3	.0546	.0494

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**135590.**	**25352.**	**6102.7**	**8656.5**
Stddev	105.	136.	10.1	11.4
%RSD	.07716	.53835	.16493	.13204
#1	135700.	25314.	6114.0	8668.5
#2	135490.	25238.	6099.2	8655.1
#3	135600.	25503.	6094.8	8645.8

Zoom In Zoom Out

Sample Name: mp14455-sd1 Acquired: 4/22/2019 19:30:10 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0254**	**.0002**	**.0003**	**-.0009**	**.0006**	**.0098**	**.0181**	**.0006**	**-.0029**
Stddev	.0016	.0003	.0005	.0009	.0019	.0034	.0004	.0009	.0018
%RSD	6.372	200.6	194.3	105.8	315.0	34.54	2.447	152.2	62.53
#1	.0253	.0004	-.0001	-.0000	-.0010	.0130	.0176	.0004	-.0022
#2	.0270	.0002	.0000	-.0008	.0027	.0101	.0182	-.0002	-.0050
#3	.0238	-.0002	.0009	-.0019	.0001	.0063	.0184	.0016	-.0016

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0019**	**.0439**	**.0133**	**.0040**	**.0029**	**-.0137**	**.0036**	**.1113**	**198.0**
Stddev	.0008	.0005	.0024	.0044	.0021	.0073	.0071	.0406	1.2
%RSD	44.85	1.177	18.03	109.8	73.78	53.42	198.3	36.47	.6236
#1	.0015	.0433	.0128	.0046	.0014	-.0055	.0001	.1486	196.8
#2	.0012	.0441	.0112	-.0007	.0053	-.0197	.0118	.1172	197.9
#3	.0028	.0442	.0159	.0082	.0018	-.0158	-.0011	.0680	199.3

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2419**	**52.00**	**8.991**	**145.7**	**.5397**	**.0558**	**18.10**	**-.0028**	**.7258**
Stddev	.0048	.29	.154	.7	.0065	.0015	.19	.0022	.0040
%RSD	1.987	.5665	1.708	.5041	1.197	2.758	1.043	78.62	.5490
#1	.2447	51.71	8.818	145.0	.5360	.0542	17.89	-.0047	.7215
#2	.2364	51.99	9.041	145.6	.5471	.0559	18.15	-.0032	.7265
#3	.2447	52.30	9.113	146.4	.5359	.0573	18.26	-.0004	.7294

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0030**	**.0158**	**.0004**	**19.59**	**.0045**	**.0701**	**.0844**
Stddev	.0006	.0027	.0001	.22	.0035	.0167	.0055
%RSD	19.75	17.37	12.75	1.107	77.38	23.80	6.525
#1	.0032	.0155	.0004	19.35	.0005	.0750	.0800
#2	.0023	.0132	.0005	19.68	.0070	.0838	.0906
#3	.0034	.0186	.0004	19.75	.0061	.0515	.0827

Zoom In Zoom Out

Sample Name: mp14455-sd1 Acquired: 4/22/2019 19:30:10 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**140460.**	**25531.**	**6339.0**	**9270.5**
Stddev	324.	63.	21.1	15.8
%RSD	.23067	.24721	.33253	.17044
#1	140470.	25527.	6325.9	9262.0
#2	140130.	25470.	6327.7	9260.6
#3	140780.	25596.	6363.3	9288.7

Zoom In Zoom Out

Sample Name: jc86049-2 Acquired: 4/22/2019 19:35:11 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1368**	**.0001**	**-.0000**	**-.0002**	**.0010**	**.0092**	**.0014**	**-.0001**	**-.0003**
Stddev	.0003	.0000	.0000	.0004	.0005	.0004	.0000	.0003	.0002
%RSD	.2478	78.09	11.91	175.9	50.04	4.080	3.268	508.4	88.05
#1	.1364	.0001	-.0000	-.0006	.0014	.0091	.0015	-.0003	-.0003
#2	.1369	.0000	-.0000	-.0003	.0011	.0096	.0015	.0003	-.0000
#3	.1371	.0000	-.0000	.0002	.0004	.0089	.0014	-.0002	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0041**	**.0053**	**.0033**	**.0015**	**.0018**	**-.0030**	**-.0025**	**.0326**	F **230.3**
Stddev	.0000	.0001	.0020	.0011	.0003	.0028	.0020	.0116	3.2
%RSD	1.135	1.463	62.81	75.47	16.09	95.15	81.27	35.58	1.404
#1	.0040	.0054	.0041	.0017	.0018	-.0014	-.0010	.0332	232.7
#2	.0041	.0053	.0047	.0003	.0015	-.0013	-.0017	.0208	226.6
#3	.0041	.0054	.0009	.0025	.0020	-.0063	-.0048	.0440	231.5

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0223**	**65.03**	**7.231**	**133.6**	**.1966**	**.0096**	**15.49**	**-.0035**	**1.571**
Stddev	.0013	.05	.037	.9	.0020	.0002	.12	.0002	.003
%RSD	5.983	.0756	.5122	.6851	1.004	2.345	.7673	4.807	.1876
#1	.0236	64.99	7.216	134.1	.1982	.0099	15.61	-.0037	1.570
#2	.0209	65.01	7.205	134.3	.1972	.0095	15.48	-.0034	1.570
#3	.0224	65.08	7.274	132.6	.1944	.0095	15.37	-.0033	1.575

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**-.0006**	**-.0010**	**23.02**	**.0023**	**.0575**	**.0453**
Stddev	.0001	.0009	.0003	.15	.0007	.0012	.0007
%RSD	26.37	138.1	30.62	.6548	31.60	2.078	1.616
#1	.0006	-.0002	-.0014	23.19	.0032	.0569	.0459
#2	.0005	-.0016	-.0009	22.99	.0019	.0567	.0454
#3	.0003	-.0001	-.0008	22.89	.0019	.0589	.0445

Zoom In Zoom Out

Sample Name: jc86049-2 Acquired: 4/22/2019 19:35:11 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**135310.**	**25339.**	**6040.3**	**8585.9**
Stddev	692.	140.	37.2	40.2
%RSD	.51139	.55158	.61542	.46819
#1	134610.	25205.	5999.1	8541.7
#2	136000.	25330.	6050.3	8595.7
#3	135330.	25484.	6071.4	8620.2

Zoom In Zoom Out

Sample Name: jc86049-3 Acquired: 4/22/2019 19:40:31 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0018**	**.0000**	**.0000**	**-.0005**	**.0003**	**.0101**	**.0021**	**.0004**	**-.0005**
Stddev	.0002	.0000	.0001	.0001	.0002	.0000	.0000	.0003	.0003
%RSD	11.87	56.70	308.2	19.98	55.26	.3973	1.875	62.45	65.81
#1	.0020	.0000	-.0001	-.0004	.0005	.0101	.0021	.0001	-.0006
#2	.0016	.0000	.0002	-.0006	.0002	.0101	.0021	.0007	-.0001
#3	.0019	.0000	.0001	-.0004	.0002	.0101	.0021	.0005	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023**	**.0052**	**.0072**	**.0014**	**.0025**	**-.0024**	**-.0007**	**-.0038**	**3.770**
Stddev	.0002	.0001	.0004	.0013	.0010	.0012	.0011	.0109	.024
%RSD	6.701	1.581	4.886	93.11	41.10	50.01	152.1	288.0	.6362
#1	.0021	.0053	.0068	.0028	.0016	-.0033	-.0002	-.0085	3.750
#2	.0023	.0051	.0073	.0012	.0023	-.0029	-.0020	.0087	3.762
#3	.0024	.0052	.0075	.0002	.0036	-.0010	.0000	-.0115	3.796

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0022**	**4.123**	**10.78**	**F 470.7**	**.3104**	**.0227**	**14.28**	**-.0028**	**.0297**
Stddev	.0003	.033	.05	6.4	.0009	.0001	.02	.0003	.0001
%RSD	14.73	.7945	.4943	1.350	.2966	.6020	.1466	11.30	.4266
#1	-.0025	4.091	10.73	464.9	.3102	.0225	14.31	-.0025	.0296
#2	-.0018	4.120	10.76	469.7	.3114	.0227	14.27	-.0027	.0297
#3	-.0023	4.157	10.84	477.5	.3096	.0228	14.27	-.0031	.0299

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**-.0010**	**-.0011**	**20.65**	**.0006**	**.0851**	**.0371**
Stddev	.0004	.0003	.0000	.09	.0015	.0006	.0028
%RSD	80.61	27.58	2.800	.4366	239.4	.6475	7.480
#1	-.0003	-.0007	-.0010	20.76	-.0011	.0848	.0353
#2	-.0009	-.0010	-.0011	20.61	.0018	.0857	.0356
#3	-.0002	-.0012	-.0011	20.60	.0011	.0848	.0403

Zoom In Zoom Out

Sample Name: jc86049-3 Acquired: 4/22/2019 19:40:31 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**133540.**	**25540.**	**6094.1**	**8549.2**
Stddev	1170.	273.	13.0	9.4
%RSD	.87588	1.0692	.21380	.11040
#1	133910.	25511.	6081.8	8538.4
#2	134480.	25827.	6107.7	8555.4
#3	132230.	25283.	6092.8	8553.9

Zoom In Zoom Out

Sample Name: jc86554-14 Acquired: 4/22/2019 19:45:42 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0000**	**-.0001**	**-.0004**	**.0005**	**.0229**	**.0004**	**.0001**	**-.0000**
Stddev	.0002	.0000	.0001	.0001	.0003	.0006	.0000	.0001	.0001
%RSD	4557.	840.3	67.24	37.03	61.95	2.534	10.89	79.72	362.7
#1	-.0002	-.0000	-.0001	-.0004	.0008	.0227	.0004	.0001	-.0002
#2	.0002	.0000	-.0001	-.0005	.0004	.0225	.0005	.0000	.0001
#3	-.0000	.0000	-.0003	-.0002	.0002	.0236	.0004	.0002	-.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0062**	**.0077**	**.0013**	**.0025**	**-.0023**	**-.0014**	**-.0056**	**24.54**
Stddev	.0002	.0001	.0007	.0009	.0004	.0030	.0009	.0108	.24
%RSD	29.59	1.587	9.754	70.47	17.05	131.4	61.58	194.3	.9837
#1	-.0007	.0063	.0082	.0022	.0029	-.0008	-.0004	-.0176	24.45
#2	-.0005	.0061	.0068	.0013	.0021	-.0003	-.0021	.0032	24.35
#3	-.0004	.0063	.0081	.0004	.0024	-.0057	-.0017	-.0023	24.81

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0032**	**2.882**	**1.453**	**9.409**	**.0035**	**.0008**	**11.25**	**-.0018**	**.1333**
Stddev	.0014	.034	.023	.107	.0003	.0002	.07	.0001	.0017
%RSD	42.75	1.189	1.605	1.135	7.412	22.38	.6399	6.585	1.242
#1	-.0024	2.870	1.446	9.386	.0034	.0006	11.27	-.0019	.1327
#2	-.0048	2.856	1.479	9.316	.0038	.0009	11.16	-.0017	.1320
#3	-.0025	2.921	1.434	9.526	.0033	.0010	11.30	-.0018	.1351

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0015**	**-.0007**	**7.855**	**.0010**	**.0153**	**.0379**
Stddev	.0005	.0007	.0001	.056	.0019	.0004	.0010
%RSD	153.4	46.88	10.48	.7155	195.4	2.766	2.719
#1	-.0001	-.0015	-.0006	7.847	.0010	.0148	.0367
#2	.0000	-.0022	-.0007	7.803	.0029	.0154	.0383
#3	-.0009	-.0008	-.0007	7.914	-.0010	.0156	.0386

Zoom In Zoom Out

Sample Name: jc86554-14 Acquired: 4/22/2019 19:45:42 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144410.**	**26116.**	**6552.4**	**9798.4**
Stddev	1552.	202.	47.0	59.6
%RSD	1.0749	.77465	.71701	.60828
#1	145940.	26330.	6540.2	9782.0
#2	144460.	26090.	6604.2	9864.5
#3	142840.	25928.	6512.7	9748.7

Zoom In Zoom Out

Sample Name: mp14303-b2 7 Acquired: 4/22/2019 19:50:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.066**	**2.001**	**1.987**	**2.028**	**1.974**	**1.991**	**2.031**	**2.044**	**.2651**
Stddev	.002	.001	.002	.004	.001	.002	.026	.003	.0008
%RSD	.0743	.0564	.1152	.1727	.0312	.1156	1.305	.1309	.3102
#1	2.067	2.002	1.988	2.032	1.974	1.994	2.042	2.047	.2660
#2	2.064	1.999	1.988	2.026	1.974	1.990	2.050	2.044	.2644
#3	2.066	2.001	1.984	2.026	1.973	1.989	2.000	2.042	.2649

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.970**	**1.988**	**2.033**	**2.110**	**2.032**	**2.002**	**2.050**	**25.38**	**25.48**
Stddev	.003	.003	.008	.017	.002	.006	.004	.03	.01
%RSD	.1277	.1370	.3789	.8262	.0954	.2873	.2051	.1369	.0585
#1	1.968	1.991	2.025	2.095	2.035	2.002	2.053	25.39	25.49
#2	1.973	1.988	2.040	2.129	2.031	2.008	2.051	25.34	25.47
#3	1.969	1.986	2.033	2.106	2.031	1.997	2.045	25.40	25.49

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.89**	**25.15**	**25.95**	**26.33**	**2.025**	**2.085**	**.0496**	**2.058**	**2.053**
Stddev	.02	.02	.08	.03	.004	.004	.0023	.008	.001
%RSD	.0682	.0698	.3262	.1062	.2059	.1965	4.606	.3802	.0559
#1	24.90	25.17	25.94	26.37	2.029	2.086	.0517	2.052	2.053
#2	24.87	25.14	25.87	26.32	2.026	2.089	.0472	2.067	2.053
#3	24.90	25.15	26.04	26.32	2.020	2.081	.0498	2.056	2.055

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.052**	**1.969**	**2.059**	**.0307**	**.1299**	**-.0013**	**1.941**
Stddev	.002	.001	.002	.0017	.0001	.0019	.014
%RSD	.0819	.0579	.0919	5.566	.1020	148.1	.7022
#1	2.050	1.968	2.057	.0324	.1299	-.0033	1.935
#2	2.054	1.969	2.061	.0290	.1301	-.0010	1.957
#3	2.052	1.970	2.058	.0306	.1298	.0005	1.931

Zoom In Zoom Out

Sample Name: mp14303-b2 7 Acquired: 4/22/2019 19:50:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**141820.**	**26290.**	**6432.5**	**9273.1**
Stddev	268.	45.	4.9	8.2
%RSD	.18867	.17069	.07692	.08814
#1	142130.	26252.	6431.2	9264.0
#2	141690.	26339.	6428.4	9275.5
#3	141650.	26278.	6438.0	9279.9

Zoom In Zoom Out

Sample Name: jc86402-2 7 Acquired: 4/22/2019 19:55:48 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0340**	**.0001**	**.0008**	**.0018**	**.0158**	**.0510**	**.0504**	**.0059**	**-.0003**
Stddev	.0001	.0001	.0002	.0000	.0003	.0008	.0001	.0003	.0000
%RSD	.3882	81.89	22.04	1.638	2.197	1.611	.1435	4.405	4.086
#1	.0341	.0001	.0007	.0018	.0156	.0514	.0504	.0060	-.0003
#2	.0341	.0002	.0007	.0018	.0161	.0515	.0505	.0056	-.0003
#3	.0339	.0000	.0010	.0018	.0155	.0500	.0504	.0061	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0109**	**.2015**	**.0038**	**.0002**	**.0109**	**-.0002**	**.0038**	**2.915**	**4.274**
Stddev	.0001	.0003	.0003	.0003	.0004	.0006	.0018	.012	.005
%RSD	1.197	.1292	8.828	192.8	3.418	239.0	46.78	.4249	.1075
#1	.0109	.2018	.0036	-.0000	.0113	-.0009	.0051	2.901	4.274
#2	.0108	.2012	.0036	.0005	.0107	.0002	.0045	2.922	4.270
#3	.0111	.2015	.0042	-.0000	.0106	-.0001	.0018	2.923	4.279

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.344**	**1.820**	**1.188**	**34.71**	**.0193**	**.0028**	**7.036**	**.0047**	**.0235**
Stddev	.005	.015	.014	.03	.0004	.0001	.005	.0001	.0000
%RSD	.1159	.7969	1.187	.0935	2.314	2.235	.0748	2.942	.1445
#1	4.343	1.811	1.172	34.72	.0192	.0027	7.030	.0049	.0235
#2	4.349	1.837	1.197	34.74	.0198	.0027	7.037	.0046	.0235
#3	4.339	1.812	1.195	34.68	.0189	.0028	7.040	.0046	.0235

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1321**	**.0048**	**.0028**	**1.198**	**.0069**	**.0060**	**.2436**
Stddev	.0004	.0011	.0001	.004	.0026	.0019	.0034
%RSD	.2860	21.96	2.561	.3777	37.51	32.46	1.377
#1	.1324	.0036	.0029	1.201	.0097	.0067	.2458
#2	.1322	.0056	.0027	1.193	.0067	.0038	.2453
#3	.1317	.0052	.0027	1.200	.0045	.0074	.2398

Zoom In Zoom Out

Sample Name: jc86402-2 7 Acquired: 4/22/2019 19:55:48 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146060.**	**26745.**	**6602.1**	**9561.5**
Stddev	273.	113.	28.8	29.4
%RSD	.18670	.42112	.43586	.30749
#1	146370.	26753.	6571.6	9530.3
#2	145860.	26853.	6605.7	9565.3
#3	145950.	26628.	6628.8	9588.8

Zoom In Zoom Out

Sample Name: jc86402-11 Acquired: 4/22/2019 20:00:50 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14334

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.816**	**.0001**	**.0003**	**.0010**	**.0024**	**.0158**	**1.361**	**.0021**	**-.0006**
Stddev	.003	.0000	.0001	.0001	.0004	.0001	.001	.0002	.0002
%RSD	.1834	41.14	26.27	8.503	14.51	.6890	.0970	11.66	30.90
#1	1.815	.0001	.0003	.0010	.0021	.0158	1.361	.0020	-.0004
#2	1.820	.0000	.0004	.0011	.0028	.0156	1.363	.0020	-.0005
#3	1.814	.0001	.0002	.0010	.0025	.0158	1.360	.0024	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0046**	**.0116**	**.0077**	**-.0018**	**.0043**	**-.0005**	**.0014**	**.8105**	F **342.2**
Stddev	.0005	.0001	.0007	.0011	.0015	.0008	.0012	.0020	3.6
%RSD	10.33	1.043	8.992	60.97	34.88	147.8	84.59	.2484	1.053
#1	.0048	.0117	.0078	-.0028	.0057	.0004	.0008	.8093	346.3
#2	.0041	.0114	.0069	-.0006	.0047	-.0009	.0028	.8128	340.4
#3	.0050	.0116	.0082	-.0021	.0027	-.0011	.0007	.8093	339.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.123**	**41.25**	**22.70**	F **1197.**	**.1067**	**.0015**	**8.020**	**-.0019**	**1.959**
Stddev	.013	.11	.12	33.	.0003	.0002	.007	.0004	.001
%RSD	.1380	.2728	.5392	2.766	.2896	13.06	.0824	20.62	.0734
#1	9.123	41.32	22.56	1235.	.1069	.0013	8.022	-.0015	1.958
#2	9.135	41.32	22.75	1177.	.1063	.0017	8.012	-.0022	1.961
#3	9.110	41.12	22.78	1178.	.1068	.0016	8.025	-.0019	1.959

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0148**	**.0068**	**.0004**	**16.91**	**.0029**	**.0365**	**.3113**
Stddev	.0004	.0012	.0002	.01	.0032	.0014	.0017
%RSD	2.749	17.60	53.33	.0786	112.6	3.950	.5561
#1	.0144	.0054	.0004	16.90	-.0005	.0358	.3096
#2	.0148	.0074	.0002	16.92	.0059	.0382	.3131
#3	.0152	.0077	.0006	16.92	.0032	.0356	.3112

Zoom In Zoom Out

Sample Name: jc86402-11 Acquired: 4/22/2019 20:00:50 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14334

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**123180.**	**25070.**	**5542.5**	**7476.0**
Stddev	264.	109.	3.6	12.1
%RSD	.21408	.43390	.06580	.16170
#1	123170.	25009.	5542.1	7472.1
#2	122920.	25006.	5546.3	7489.5
#3	123440.	25196.	5539.1	7466.3

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 20:06:11 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.097**	**2.024**	**2.022**	**2.059**	**2.021**	**2.026**	**2.058**	**2.080**	**.2510**
Stddev	.006	.007	.004	.002	.004	.004	.019	.001	.0007
%RSD	.3024	.3393	.1712	.0898	.1913	.1769	.9195	.0687	.2867
#1	2.097	2.024	2.019	2.059	2.025	2.029	2.046	2.080	.2518
#2	2.091	2.017	2.022	2.058	2.017	2.022	2.080	2.079	.2504
#3	2.103	2.030	2.026	2.061	2.021	2.028	2.048	2.082	.2508
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.002**	**2.028**	**2.045**	**2.116**	**2.061**	**2.048**	**2.043**	**40.54**	**40.59**
Stddev	.003	.002	.003	.002	.002	.003	.001	.09	.09
%RSD	.1438	.0916	.1540	.0741	.1101	.1199	.0445	.2240	.2334
#1	2.003	2.027	2.043	2.118	2.060	2.046	2.043	40.58	40.62
#2	1.999	2.028	2.044	2.115	2.060	2.046	2.044	40.44	40.49
#3	2.004	2.030	2.049	2.115	2.064	2.051	2.042	40.61	40.67
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.47**	**39.97**	**41.40**	**39.53**	**2.068**	**2.077**	**5.333**	**2.044**	**2.082**
Stddev	.09	.09	.10	.09	.003	.003	.011	.002	.003
%RSD	.2345	.2296	.2398	.2251	.1265	.1200	.2020	.0915	.1390
#1	39.49	40.03	41.51	39.48	2.065	2.075	5.322	2.042	2.084
#2	39.37	39.86	41.32	39.47	2.067	2.076	5.333	2.044	2.079
#3	39.55	40.01	41.36	39.63	2.071	2.080	5.343	2.046	2.085
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 20:06:11 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.051**	**2.025**	**2.058**	**2.014**	**2.084**	**2.036**	**2.000**
Stddev	.004	.000	.003	.004	.006	.006	.010
%RSD	.1710	.0057	.1575	.2085	.2805	.2820	.4928
#1	2.053	2.024	2.060	2.011	2.079	2.038	2.008
#2	2.047	2.025	2.054	2.012	2.083	2.030	1.989
#3	2.054	2.025	2.060	2.019	2.090	2.041	2.002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**138100.**	**25718.**	**6292.9**	**9010.3**
Stddev	304.	145.	3.6	5.8
%RSD	.21981	.56193	.05721	.06478
#1	137760.	25586.	6296.0	9004.6
#2	138350.	25872.	6293.7	9016.3
#3	138200.	25696.	6288.9	9010.1

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 20:11:13 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**-.0000**	**.0001**	**-.0002**	**.0001**	**.0000**	**.0000**	**.0001**	**.0001**
Stddev	.0002	.0000	.0001	.0002	.0002	.0002	.0000	.0003	.0001
%RSD	37.28	43.57	148.1	96.74	197.2	843.1	52.70	282.2	211.1
#1	-.0005	-.0001	-.0000	-.0003	-.0000	-.0001	.0000	.0003	.0002
#2	-.0003	-.0000	.0001	-.0002	.0000	-.0000	.0000	.0004	.0001
#3	-.0007	-.0000	.0001	.0000	.0004	.0002	.0000	-.0003	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0034**	**-.0007**	**.0005**	**-.0003**	**-.0020**	**.0003**	**-.0052**	**-.0016**
Stddev	.0001	.0033	.0006	.0014	.0004	.0010	.0010	.0058	.0017
%RSD	62.21	98.57	79.51	264.6	128.7	48.12	374.2	111.3	110.2
#1	-.0004	.0011	-.0007	.0002	.0001	-.0009	-.0007	-.0104	-.0005
#2	-.0002	.0072	-.0013	-.0006	-.0008	-.0023	.0014	-.0061	-.0006
#3	-.0001	.0018	-.0002	.0020	-.0004	-.0027	.0002	.0010	-.0035
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**-.0092**	**.3006**	**.5983**	**.0027**	**.0002**	**-.0006**	**-.0004**	**.0001**
Stddev	.0039	.0070	.0020	.0124	.0002	.0001	.0009	.0002	.0001
%RSD	372.8	75.98	.6659	2.074	7.754	44.00	144.4	55.19	74.93
#1	.0053	-.0166	.2983	.6112	.0025	.0002	-.0015	-.0006	.0002
#2	-.0024	-.0085	.3015	.5970	.0027	.0002	.0003	-.0002	.0000
#3	.0002	-.0026	.3019	.5865	.0030	.0001	-.0008	-.0005	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 20:11:13 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0022**	**.0002**	**.0036**	**.0011**	**.0030**	**.0128**
Stddev	.0002	.0005	.0001	.0028	.0012	.0008	.0013
%RSD	96.05	23.89	64.43	77.87	109.4	24.94	10.36
#1	-.0000	.0021	.0001	.0069	.0002	.0026	.0114
#2	-.0003	.0017	.0002	.0023	.0026	.0025	.0130
#3	-.0001	.0027	.0003	.0017	.0006	.0039	.0140
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**148080.**	**26359.**	**6641.4**	**10039.**
Stddev	232.	169.	7.4	14.
%RSD	.15663	.64279	.11193	.13933
#1	148010.	26164.	6633.0	10023.
#2	147900.	26450.	6644.2	10048.
#3	148340.	26464.	6647.1	10047.

NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ba 455.403 { 74}	☒	1	Zr	0.001245	0.000000	No
Be 313.042 {108}	☒	6	V	0.001406	0.000000	No
			Mo	-0.000047	0.000000	No
			Ti	-0.000191	0.000000	No
			Mn	0.000010	0.000000	No
			Cu	0.000014	0.000000	No
			Bi	0.000060	0.000000	No
Cd 228.802 {448}	☒	11	As	0.009200	0.000000	No
			Ni	-0.000628	0.000000	No
			Fe	-0.000003	0.000000	No
			V	0.000091	0.000000	No
			Ba	0.000064	0.000000	No
			Co	-0.000830	0.000000	No
			Sr	-0.000020	0.000000	No
			Mn	0.000050	0.000000	No
			Cu	-0.000026	0.000000	No
			Zn	-0.000018	0.000000	No
			W	-0.000482	0.000000	No
Co 228.616 {448}	☒	7	Fe	0.000009	0.000000	No
			Mo	-0.000790	0.000000	No
			Ni	0.000091	0.000000	No
			Ti	0.002192	0.000000	No
			Ba	0.000140	0.000000	No
			W	0.000327	0.000000	No
			Cd	-0.000510	0.000000	No
Cr 267.716 {126}	☒	9	Mn	0.000348	0.000000	No
			V	0.000090	0.000000	No
			Mo	-0.000082	0.000000	No
			Fe	-0.000005	0.000000	No
			Ti	0.000060	0.000000	No
			Ba	0.000045	0.000000	No
			Cu	0.000100	0.000000	No
			Sr	-0.000100	0.000000	No
			W	0.000404	0.000000	No
Cu 324.754 {104}2	☒	13	Cr	-0.000004	0.000000	No
			V	-0.000397	0.000000	No
			Mo	0.000544	0.000000	No
			Ti	-0.000208	0.000000	No
			Fe	-0.000226	0.000000	No
			Zn	-0.000041	0.000000	No
			Co	-0.001373	0.000000	No
			Si	0.000016	0.000000	No
			Mn	0.000003	0.000000	No
			Se	0.000050	0.000000	No
			Sb	0.000069	0.000000	No
			W	0.000000	0.000000	No
			Al	0.000004	0.000000	No
Mn 257.610 {131}	☒	4	Fe	-0.000107	0.000000	No
			Si	0.000010	0.000000	No
			Ba	0.000004	0.000000	No
			Ni	0.000028	0.000000	No
Ni 231.604 {446}	☒	8	Fe	0.000008	0.000000	No
			Zn	-0.000013	0.000000	No
			Be	0.000213	0.000000	No
			Co	-0.000220	0.000000	No
			Tl	0.000209	0.000000	No
			Mo	0.000026	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Cu	0.000050	0.000000	No
			Se	0.000100	0.000000	No
Ag 328.068 {103}	☒	14	Mn	0.000252	0.000000	No
			Mo	0.000012	-0.000003	No
			Ti	-0.000090	0.000000	No
			Fe	-0.000303	0.000000	No
			Zn	-0.000120	0.000000	No
			Ca	-0.000001	0.000000	No
			Zr	0.007115	0.000000	No
			Sr	-0.000020	0.000000	No
			Mg	0.000000	0.000000	No
			Ba	0.000071	0.000000	No
			Cr	0.000022	0.000000	No
			V	-0.003037	0.000000	No
			Al	-0.000006	0.000000	No
			W	0.000000	0.000000	No
V 292.402 {115}	☒	6	Ti	0.000689	0.000000	No
			Mo	-0.000304	0.000000	No
			Fe	0.000029	0.000000	No
			Sr	-0.000100	0.000000	No
			Cr	-0.007936	0.000000	No
			Mn	-0.002777	0.000000	No
Zn 206.200 {464}	☒	9	Cr	-0.000850	0.000000	No
			Fe	0.000011	0.000000	No
			Si	0.000015	0.000000	No
			Mn	-0.000045	0.000000	No
			Ba	-0.000060	0.000000	No
			Sn	-0.000023	0.000000	No
			Cu	0.000148	0.000000	No
			As	0.000055	0.000000	No
			Be	0.000058	0.000000	No
As 189.042 {478}	☒	18	Al	0.000014	0.000000	No
			Fe	-0.000190	0.000000	No
			Ca	0.000004	0.000000	No
			Mo	0.002950	0.000000	No
			Cr	0.001094	0.000000	No
			Ba	0.000186	0.000000	No
			Sn	-0.000130	0.000000	No
			Cd	-0.000328	0.000000	No
			Si	0.000024	0.000000	No
			Zn	-0.000082	0.000000	No
			Sr	-0.000045	0.000000	No
			W	0.000000	0.000000	No
			Cu	-0.000058	0.000000	No
			Co	0.000047	0.000000	No
			Zr	0.000036	0.000000	No
			Mn	0.000022	0.000000	No
			S	0.000010	0.000000	No
			Ti	0.000100	0.000000	No
Tl 190.856 {477}	☒	24	Cr	0.000315	0.000000	No
			Mo	-0.009700	0.000000	No
			Al	-0.000003	0.000000	No
			Fe	-0.000032	0.000000	No
			V	-0.028088	0.000000	No
			Mn	0.002390	0.000000	No
			Si	-0.000018	0.000000	No
			Ca	0.000000	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Ti	-0.002590	0.000000	No
				Mg	0.000000	0.000000	No
				Co	0.005080	0.000000	No
				Sr	0.000010	0.000000	No
				B	-0.000003	0.000000	No
				Ba	0.000034	0.000000	No
				Zn	-0.000023	0.000000	No
				As	0.000068	0.000000	No
				W	-0.007000	0.000000	No
				Cu	0.000142	0.000000	No
				Pb	-0.000020	0.000000	No
				S	0.000010	0.000000	No
				Sn	-0.000086	0.000000	No
				Li	0.000000	0.000000	No
				K	0.000000	0.000000	No
				Zr	0.000000	0.000000	No
	Pb 220.353 {453}	☒	20	Al	-0.000169	0.000000	No
				Fe	0.000034	0.000000	No
				Ca	0.000005	0.000000	No
				Mn	0.000154	0.000000	No
				Mo	-0.000300	0.000000	No
				Cu	0.000154	0.000000	No
				Co	0.000264	0.000000	No
				Ti	-0.000100	0.000000	No
				Si	-0.000067	0.000000	No
				Ba	-0.000022	0.000000	No
				Sb	-0.000084	0.000000	No
				Sr	-0.000033	0.000000	No
				W	0.000000	0.000000	No
				Mg	0.000004	0.000000	No
				Cd	0.000012	0.000000	No
				Cr	-0.000031	0.000000	No
				Zr	-0.000281	0.000000	No
				Ni	0.000371	0.000000	No
				S	0.000010	0.000000	No
				Zn	-0.000106	0.000000	No
	Se 196.090 {472}	☒	23	Al	-0.000002	0.000000	No
				Ca	-0.000007	0.000000	No
				Mn	0.000594	0.000000	No
				Mo	0.000400	0.000000	No
				Fe	-0.000172	0.000000	No
				Co	-0.000182	0.000000	No
				Sr	-0.000011	0.000000	No
				Cu	-0.000087	0.000000	No
				W	0.000000	0.000000	No
				Si	0.000054	0.000000	No
				Be	-0.000347	0.000000	No
				Zn	0.000050	0.000000	No
				B	0.000028	0.000000	No
				Ti	-0.000020	0.000000	No
				Cd	0.000090	0.000000	No
				Zr	-0.000297	0.000000	No
				Ba	-0.000046	0.000000	No
				Mg	-0.000000	0.000000	No
				Pb	-0.000078	0.000000	No
				Ni	-0.000100	0.000000	No
				Cr	-0.000024	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			S	-0.000014	0.000000	No
			V	0.000188	0.000000	No
Sb 206.833 {463}	☒	17	Fe	0.000001	0.000000	No
			Al	0.000015	0.000000	No
			Ca	0.000001	0.000000	No
			Ni	-0.000716	0.000000	No
			Cr	0.021600	0.000000	No
			V	-0.003422	0.000000	No
			Zn	-0.000115	0.000000	No
			Mo	0.000889	0.000000	No
			Ti	0.000030	0.000000	No
			Sn	-0.010224	0.000000	No
			Mg	-0.000003	0.000000	No
			Zr	-0.000463	0.000000	No
			Sr	0.000031	0.000000	No
			B	-0.000100	0.000000	No
			Co	-0.000251	0.000000	No
			W	0.000000	0.000000	No
			Si	0.000130	0.000000	No
Al 396.152 { 85}	☒	5	Si	0.000652	0.000000	No
			Ca	0.000018	0.000000	No
			Mo	0.043916	0.000000	No
			Zr	0.005268	0.000000	No
			Ti	-0.000583	0.000000	No
Ca 317.933 {106}	☒	14	Fe	0.000012	0.000000	No
			W	0.003960	0.000000	No
			Tl	-0.000152	0.000000	No
			Be	0.001840	0.000000	No
			Ba	-0.001224	0.000000	No
			Cu	-0.000822	0.000000	No
			Cd	-0.007593	0.000000	No
			Ni	0.000667	0.000000	No
			B	-0.000210	0.000000	No
			Se	0.000923	0.000000	No
			Co	-0.000408	0.000000	No
			Cr	0.000640	0.000000	No
			Al	-0.000000	0.000000	No
			As	0.010000	0.000000	No
Fe 259.940 {130}	☒	10	Si	0.000819	0.000000	No
			Tl	-0.000051	0.000000	No
			Cr	0.000310	0.000000	No
			Mn	-0.000196	0.000000	No
			V	-0.000064	0.000000	No
			Cu	-0.000015	0.000000	No
			Zn	0.000046	0.000000	No
			Ti	-0.000631	0.000000	No
			Ca	0.000020	0.000000	No
			Ba	0.001000	0.000000	No
Mg 279.079 {121}	☒	3	Mo	-0.013702	0.000000	No
			W	-0.006578	0.000000	No
			Mn	-0.002445	0.000000	No
K 766.490 { 44}	☒	11	Fe	-0.000440	0.000000	No
			Al	0.000077	0.000000	No
			Ca	-0.000121	0.000000	No
			Mn	-0.007074	0.000000	No
			Si	-0.003000	0.000000	No
			V	-0.002000	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Sn	-0.004700	0.000000	No
			Ba	-0.010574	0.000000	No
			Mo	-0.000850	0.000000	No
			Cu	-0.011483	0.000000	No
			Ni	-0.010000	0.000000	No
Na 589.592 { 57}	☒	4	K	-0.000560	0.000000	No
			Ba	0.000900	0.000000	No
			Ca	0.000180	0.000000	No
			V	-0.005000	0.000000	No
B 208.959 {462}	☒	1	Mo	0.038137	0.000000	No
Mo 202.030 {467}	☒	2	Al	-0.000004	0.000000	No
			Fe	-0.000010	0.000000	No
Si 212.412 {459}	☒	12	Sr	0.000366	0.000000	No
			Ni	0.002092	0.000000	No
			Mo	0.034932	0.000000	No
			V	0.036950	0.000000	No
			Ti	0.004593	0.000000	No
			Al	-0.000010	0.000000	No
			Cd	0.001043	0.000000	No
			Ba	0.001987	0.000000	No
			Sn	0.007500	0.000000	No
			Zn	0.000385	0.000000	No
			Be	-0.000048	0.000000	No
			W	0.000000	0.000000	No
Sn 189.989 {478}	☒	4	Ti	-0.001964	0.000000	No
			Fe	0.000004	0.000000	No
			Si	0.000131	0.000000	No
			Zr	0.000908	0.000000	No
Sr 407.771 { 83}	☒	2	Ca	0.000018	0.000000	No
			Si	0.000033	0.000000	No
Ti 334.904 {101}	☒	3	Cr	0.000189	0.000000	No
			Mo	0.001351	0.000000	No
			Si	0.000035	0.000000	No
Y 360.073 { 94}*	☒	None				
Y 371.030 { 91}*	☒	None				
Y 224.306 {451}*	☒	None				
In 230.606 {446}*	☒	None				
W 207.911 {462}	☒	20	Si	0.000105	0.000000	No
			As	0.000100	0.000000	No
			Mn	0.000066	0.000000	No
			Mo	-0.000300	0.000000	No
			Ti	0.000080	0.000000	No
			Sr	-0.000850	0.000000	No
			V	-0.000140	0.000000	No
			Cd	-0.000650	0.000000	No
			Cr	-0.000390	0.000000	No
			Zn	0.013026	0.000000	No
			Sn	0.001300	0.000000	No
			Zr	0.000061	0.000000	No
			B	0.000009	0.000000	No
			Sb	-0.000300	0.000000	No
			Co	-0.001000	0.000000	No
			Ni	-0.003000	0.000000	No
			Be	-0.000185	0.000000	No
			Se	-0.000105	0.000000	No
			Cu	-0.000138	0.000000	No
			Tl	-0.000220	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
	Zr 339.198 { 99}	☒	6	Mo	0.001069	0.000000	No
				Ti	0.000203	0.000000	No
				Fe	-0.000070	0.000000	No
				Si	0.000074	0.000000	No
				S	-0.000002	0.000000	No
				Cr	-0.000700	0.000000	No
	S 182.034 {485}	☒	7	Mo	-0.004201	0.000000	No
				Al	-0.000034	0.000000	No
				Fe	0.000002	0.000000	No
				Mn	0.004620	0.000000	No
				W	-0.032564	0.000000	No
				Ca	0.000032	0.000000	No
				Mg	0.000005	0.000000	No
	Bi 223.061 {451}	☒	9	Ti	-0.072020	0.000000	No
				V	-0.000704	0.000000	No
				Co	-0.002380	0.000000	No
				Ca	-0.000002	0.000000	No
				Mg	-0.000000	0.000000	No
				Fe	0.000187	0.000000	No
				Cr	0.001595	0.000000	No
				Cu	-0.001148	0.000000	No
				W	-0.020000	0.000000	No
	Li 670.784 { 50}	☒	2	Ca	0.000023	0.000000	No
				Fe	0.000081	0.000000	No
	P 177.495 {490}	☒	9	Mn	-0.006184	0.000000	No
				Al	-0.000060	0.000000	No
				V	-0.001953	0.000000	No
				Si	-0.001622	0.000000	No
				Ti	0.000000	-0.001185	No
				Mo	-0.001880	0.000000	No
				S	-0.000189	0.000000	No
				Co	-0.002198	0.000000	No
				Cu	-0.023500	0.000000	No

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ba 455.403 { 74}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.012432	1.814962	0.000000	1.000000
Be 313.042 {108}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000944	3.059642	0.000000	1.000000
Cd 228.802 {448}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000481	1.149045	0.000000	1.000000
Co 228.616 {448}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000092	0.733666	0.000000	1.000000
Cr 267.716 {126}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000099	0.166595	0.000000	1.000000
Cu 324.754 {104}2	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.002813	0.273053	0.000000	1.000000
Mn 257.610 {131}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000072	0.901373	0.000000	1.000000
Ni 231.604 {446}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000100	0.605564	0.000000	1.000000
Ag 328.068 {103}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000351	0.154258	0.000000	1.000000
V 292.402 {115}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000403	0.229186	0.000000	1.000000
Zn 206.200 {464}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000515	1.716987	0.000000	1.000000
As 189.042 {478}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000153	0.122896	0.000000	1.000000
Tl 190.856 {477}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000210	0.078893	0.000000	1.000000
Pb 220.353 {453}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000454	0.268092	0.000000	1.000000
Se 196.090 {472}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000063	0.095689	0.000000	1.000000
Sb 206.833 {463}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000855	0.158232	0.000000	1.000000
Al 396.152 { 85}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000349	0.043928	0.000000	1.000000
Ca 317.933 {106}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.008492	0.109162	0.000000	1.000000
Fe 259.940 {130}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000127	0.068075	0.000000	1.000000
Mg 279.079 {121}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000047	0.012097	0.000000	1.000000
K 766.490 { 44}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.001934	0.021100	0.000000	1.000000
Na 589.592 { 57}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.010300	0.078400	0.000000	1.000000
B 208.959 {462}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000796	0.245992	0.000000	1.000000
Mo 202.030 {467}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000452	0.754233	0.000000	1.000000
Si 212.412 {459}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.002876	0.208891	0.000000	1.000000
Sn 189.989 {478}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000323	0.227030	0.000000	1.000000
Sr 407.771 { 83}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.001315	3.403568	0.000000	1.000000
Ti 334.904 {101}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000130	0.181142	0.000000	1.000000
Y 360.073 { 94}*	4/23/2019 8:27:22	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	4/23/2019 8:27:22	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 224.306 {451}*	4/23/2019 8:27:22	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
In 230.606 {446}*	4/23/2019 8:27:22	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
W 207.911 {462}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000731	0.391768	0.000000	1.000000
Zr 339.198 { 99}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000520	0.500687	0.000000	1.000000
S 182.034 {485}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000284	0.050831	0.000000	1.000000
Bi 223.061 {451}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000332	0.188485	0.000000	1.000000
Li 670.784 { 50}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.003716	0.455766	0.000000	1.000000
P 177.495 {490}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	1/Conc	-0.004497	0.033687	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ba 455.403 { 74}	1.000000	0.000000	0.000276	0.000921	OK.	1.000000	0.000000	1	0
Be 313.042 {108}	1.000000	0.000000	0.000065	0.000216	OK.	1.000000	0.000000	1	0
Cd 228.802 {448}	1.000000	0.000000	0.000197	0.000656	OK.	1.000000	0.000000	1	0
Co 228.616 {448}	1.000000	0.000000	0.000241	0.000804	OK.	1.000000	0.000000	1	0
Cr 267.716 {126}	1.000000	0.000000	0.000316	0.001054	OK.	1.000000	0.000000	1	0
Cu 324.754 {104}2	1.000000	0.000000	0.000439	0.001462	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	1.000000	0.000000	0.000052	0.000173	OK.	1.000000	0.000000	1	0
Ni 231.604 {446}	1.000000	0.000000	0.000335	0.001117	OK.	1.000000	0.000000	1	0
Ag 328.068 {103}	1.000000	0.000000	0.000509	0.001697	OK.	1.000000	0.000000	1	0
V 292.402 {115}	1.000000	0.000000	0.000386	0.001286	OK.	1.000000	0.000000	1	0
Zn 206.200 {464}	1.000000	0.000000	0.000109	0.000364	OK.	1.000000	0.000000	1	0
As 189.042 {478}	1.000000	0.000000	0.001213	0.004042	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	1.000000	0.000000	0.001373	0.004577	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	1.000000	0.000000	0.001065	0.003550	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	1.000000	0.000000	0.002010	0.006698	OK.	1.000000	0.000000	1	0
Sb 206.833 {463}	1.000000	0.000000	0.001571	0.005237	OK.	1.000000	0.000000	1	0
Al 396.152 { 85}	1.000000	0.000000	0.009658	0.032193	OK.	1.000000	0.000000	1	0
Ca 317.933 {106}	1.000000	0.000000	0.002249	0.007496	OK.	1.000000	0.000000	1	0
Fe 259.940 {130}	1.000000	0.000000	0.001845	0.006149	OK.	1.000000	0.000000	1	0
Mg 279.079 {121}	1.000000	0.000000	0.013071	0.043570	OK.	1.000000	0.000000	1	0
K 766.490 { 44}	1.000000	0.000000	0.034914	0.116381	OK.	1.000000	0.000000	1	0
Na 589.592 { 57}	1.000000	0.000000	0.009991	0.033305	OK.	1.000000	0.000000	1	0
B 208.959 {462}	1.000000	0.000000	0.000699	0.002329	OK.	1.000000	0.000000	1	0
Mo 202.030 {467}	1.000000	0.000000	0.000285	0.000949	OK.	1.000000	0.000000	1	0
Si 212.412 {459}	1.000000	0.000000	0.001185	0.003950	OK.	1.000000	0.000000	1	0
Sn 189.989 {478}	1.000000	0.000000	0.000611	0.002038	OK.	1.000000	0.000000	1	0
Sr 407.771 { 83}	1.000000	0.000000	0.000102	0.000340	OK.	1.000000	0.000000	1	0
Ti 334.904 {101}	1.000000	0.000000	0.000384	0.001281	OK.	1.000000	0.000000	1	0
Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 { 91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 224.306 {451}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
W 207.911 {462}	1.000000	0.000000	0.001093	0.003644	OK.	1.000000	0.000000	1	0
Zr 339.198 { 99}	1.000000	0.000000	0.000198	0.000659	OK.	1.000000	0.000000	1	0
S 182.034 {485}	1.000000	0.000000	0.002495	0.008317	OK.	1.000000	0.000000	1	0
Bi 223.061 {451}	1.000000	0.000000	0.001773	0.005909	OK.	1.000000	0.000000	1	0
Li 670.784 { 50}	1.000000	0.000000	0.001739	0.005796	OK.	1.000000	0.000000	1	0
P 177.495 {490}	1.000000	0.000000	0.003219	0.010729	OK.	1.000000	0.000000	1	0

SGS North America Inc.

Accutest Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP14303	4/17/2019	16:15	4/17/2019	22:00	JC86497-1	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	8	4156601	95	0	95
1	End	8	4156601	95	0	95
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	SW846 3010A	Digestion Block		M-74	1812114	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP14303-MB1	N/A	N	50	50	AB		
MP14303-B1	N/A	N	50	50	AB	ABCD	
MP14303-S1	3	Y	50	50	AB	ABCD	STARTED @16:30
MP14303-S2	3	Y	50	50	AB	ABCD	STARTED @16:30
MP14303-SD1	3	Y	50	50	AB		
JC86397-7	5	Y	10	50	AB		ORANGE, CLOUDY
JC86397-8	5	Y	50	50	AB		
JC86397-9	5	Y	50	50	AB		
JC86412-1	1	Y	5	50	AB		DARK, MUDDY
JC86426-1	1	Y	50	50	AB		
JC86442-5	3	Y	50	50	AB		
JC86443-1	3	Y	50	50	AB		
JC86497-1	3	Y	50	50	AB		STARTED @16:30
MP14303-B2	N/A	N	50	50	AB		

Reagents Groups

Group	Description	MLs Used
A	CONC HNO3	3
B	1:1 HCL	5
C		
D		
E		
F		
G		
H		

Spike Groups

Group	Description	MLs Used
A	ACCUTEST 13A REV1	0.5
B	ACCUTEST 14A REV1	0.5
C	MINERALS 5000PPM	0.25
D	AG 20PPM	0.625
E		
F	AG 20PPM	0.625
G		
H		

Comments:

Analyst MOUSTAFR **Approved by** gulcagt **Approved on** 4/18/2019

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

SGS

Metals Digestion Reagents Information Log

Digestion Batch ID: MP 14303 **Date:** ~~4/17/19~~ 4/17/19

Matrix: ALL

Standard/Reagent Type	Exp. Date	Standard/Reagent ID
Spiking Solution - (ACCUTEST-13A REV1)	10/4/2019	MP-015-1153
Spiking Solution - (ACCUTEST-14A REV1)	10/4/2019	MP-015-1154
Spiking Solution - 5000 mg/l Minerals	2/15/2020	N2-MEB674932 MFG: INO. VENT.
Spiking Solution - Sulfur 1000ppm	4/11/2021	LOT: 041118 MFG: ABS. GRADE
Spiking Solution - Si 1000ppm	10/31/2019	N2-SI668066 MFG: INO. VENT.
Spiking Solution - Bi 1000ppm	1/16/2020	N2-BI669548 MFG: INO. VENT.
Spiking Solution - Se 20ppm	10/10/2019	MP-015-1156
Spiking Solution - Li 1000ppm	1/24/2020	N2-LI665824 MFG: INO. VENT.
Spiking Solution- Ag 20 ppm	10/9/2019	MP-015-1155
Spiking Solution - (ACCUTEST-13B REV1)	10/10/2019	MP-015-1157
Spiking Solution - (ACCUTEST-14B REV1)	7/3/2019	MP-015-1126
Spiking Solution - 1000ppm Minerals	6/4/2019	MP-015-1117
Spiking Solution- P		
Nitric Acid	4/15/2021	LOT: 205793 MFG: J.T. BAKER
Nitric Acid (1:1)	10/15/2019	MP-018-42-180 1:1 HNO3
Hydrochloric Acid	4/17/2021	LOT: 217157 MFG: J.T. BAKER
Hydrochloric Acid (1:1)	10/16/2019	MP-018-42-181 1:1 HCL
Hydrogen Peroxide	4/11/2021	LOT: 188006 MFG: FISHER
Soil Lab Control/Soil LC	3/31/2020	LOT: D094-540 MFG: ERA
Teflon Chips(For Soil MB and Blank Spike)	N/A	LOT: 24242815 MFG: SAINT-GOBAIN
Digestion Tubes	N/A	LOT: 1812114 MFG: ENV. EXPRESS
pH Paper	6/15/2021	LOT: 217518 MFG: HYDRION
Filter paper Q8	N/A	LOT: 16917460 MFG: FISHER
Filter paper 0.45µm	N/A	LOT: F8MA26136E MFG: FISHER

Spike witnessed By: BP

Validated By:

Validated On:

Metals Prep Reagent
1/17/18

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN94243			mg/l	250	247	98.8	90-110%
Alkalinity, Total as CaCO3	GN94243	5.0	0.0	mg/l	50	51.3	102.6	90-110%
Chloride	GP20737/GN94318	2.0	0.0	mg/l	80	80.4	100.5	90-110%
Iron, Ferrous	GN94199	0.20	0.0	mg/l	3.0	3.0	100.0	85-115%
Nitrogen, Nitrate + Nitrite	GP20729/GN94330	0.10	0.0	mg/l	2	2.02	101.0	90-110%
Nitrogen, Nitrite	GN94198	0.010	0.0	mg/l	0.04	0.037	92.5	90-110%
Sulfate	GP20673/GN94202	2.0	0.71	mg/l	80	77.7	97.1	90-110%
Sulfate	GP20737/GN94318	2.0	0.0	mg/l	80	80.4	100.5	90-110%
Sulfide	GN94263			mg/l	9.76	9.6	98.4	80-120%
Sulfide	GN94263	2.0	0.0	mg/l	4.88	4.9	100.4	80-120%
Surfactants, MBAS as LAS	GN94187	0.10	0.0	mg/l	0.5	0.48	96.0	90-110%
Total Organic Carbon	GP20738/GN94326	1.0	0.0	mg/l	10	9.83	98.3	90-110%
Total Residual Chlorine	GN94251	0.10	0.0	mg/l	1.0	0.99	99.0	90-110%

Associated Samples:
Batch GN94187: JC86426-1
Batch GN94198: JC86426-1
Batch GN94199: JC86426-1
Batch GN94243: JC86426-1
Batch GN94251: JC86426-1
Batch GN94263: JC86426-1
Batch GP20673: JC86426-1
Batch GP20729: JC86426-1
Batch GP20737: JC86426-1
Batch GP20738: JC86426-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN94243	JC86140-1	mg/l	284	288	1.4	0-10%
Chloride	GP20737/GN94318	JC86512-8	mg/l	38.6	38.8	0.5	0-20%
Iron, Ferrous	GN94199	JC86426-1	mg/l	0.0	0.0	0.0	0-28%
Nitrogen, Nitrate + Nitrite	GP20729/GN94330	JC86521-4	mg/l	7.9	7.8	1.3	0-33%
Nitrogen, Nitrite	GN94198	JC86449-1	mg/l	0.0033	0.0	200.0(a)	0-11%
Sulfate	GP20673/GN94202	JC86327-1	mg/l	189	187	1.1	0-20%
Sulfate	GP20737/GN94318	JC86512-8	mg/l	62.9	63.1	0.3	0-20%
Sulfide	GN94263	JC86512-8	mg/l	0.0	0.0	0.0	0-12%
Surfactants, MBAS as LAS	GN94187	JC86426-1	mg/l	0.0	0.0	0.0	0-25%
Total Residual Chlorine	GN94251	JC86426-1	mg/l	0.0	0.0	0.0	0-49%

Associated Samples:
Batch GN94187: JC86426-1
Batch GN94198: JC86426-1
Batch GN94199: JC86426-1
Batch GN94243: JC86426-1
Batch GN94251: JC86426-1
Batch GN94263: JC86426-1
Batch GP20673: JC86426-1
Batch GP20729: JC86426-1
Batch GP20737: JC86426-1
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP20737/GN94318	JC86512-8	mg/l	38.6	80	116	96.8	80-120%
Iron, Ferrous	GN94199	JC86426-1	mg/l	0.0	3.0	3.0	100.0	92-113%
Nitrogen, Nitrate + Nitrite	GP20729/GN94330	JC86521-4	mg/l	7.9	1	8.8	90.0	90-110%
Nitrogen, Nitrite	GN94198	JC86449-1	mg/l	0.0033	0.04	0.039	89.3	22-140%
Sulfate	GP20673/GN94202	JC86327-1	mg/l	189	80	257	85.0	80-120%
Sulfate	GP20737/GN94318	JC86512-8	mg/l	62.9	80	140	96.4	80-120%
Sulfide	GN94263	JC86426-1	mg/l	0.0	3.31	2.8	84.6	37-135%
Surfactants, MBAS as LAS	GN94187	JC86426-1	mg/l	0.0	0.5	0.43	86.0	75-125%
Total Organic Carbon	GP20738/GN94326	JC86461-2	mg/l	3.7	10	14.4	107.0	71-132%

Associated Samples:
Batch GN94187: JC86426-1
Batch GN94198: JC86426-1
Batch GN94199: JC86426-1
Batch GN94263: JC86426-1
Batch GP20673: JC86426-1
Batch GP20729: JC86426-1
Batch GP20737: JC86426-1
Batch GP20738: JC86426-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Iron, Ferrous	GN94199	JC86426-1	mg/l	0.0	3.0	3.0	0.0	20%
Total Organic Carbon	GP20738/GN94326	JC86461-2	mg/l	3.7	10	14.3	0.7	10%

Associated Samples:
Batch GN94199: JC86426-1
Batch GP20738: JC86426-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: 319041701.TXT Date Analyzed: 04/17/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN94202
Parameters: Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:35	GN94202-STD1	1		Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044.
10:59	GN94202-STD2	1		RT: Chl=4.223 min So4=6.204 min
11:23	GN94202-STD3	1		STDC
11:47	GN94202-STD4	1		STDCD
12:11	GN94202-STD5	1		STDD
12:34	GN94202-STD6	1		STDDE
12:58	GN94202-STD7	1		STDE
13:22	GN94202-STD8	1		STDF
13:57	GN94202-STD9	1		STDG
09:48	GN94202-ICV1	1		
10:12	GN94202-CCV1	1		
10:36	GN94202-CCB1	1		
11:00	GP20625-MB2	1		
11:24	GP20625-B2	1		
11:48	ZZZZZZ	2		
12:11	ZZZZZZ	2		
12:35	ZZZZZZ	2		
12:59	GP20625-S1	5		
13:23	GP20625-D1	3		
13:47	JC85156-5	3		(sample used for QC only; not part of login JC86426)
14:11	ZZZZZZ	3		
14:35	ZZZZZZ	2		
14:59	GN94202-CCV2	1		
15:23	GN94202-CCB2	1		
15:47	ZZZZZZ	5		
16:11	GP20673-MB1	1		
16:35	GP20673-B1	1		
16:59	GP20673-S1	1		
17:22	GP20673-D1	1		
17:46	JC86327-1	1		(sample used for QC only; not part of login JC86426)
18:10	GP20673-S2	1		
18:34	JC86327-2	1		(sample used for QC only; not part of login JC86426)
18:58	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: 319041701.TXT Date Analyzed: 04/17/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN94202
Parameters: Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:22	ZZZZZZ	1		
19:46	GN94202-CCV3	1		
20:10	GN94202-CCB3	1		
20:34	ZZZZZZ	1		
20:58	ZZZZZZ	1		
21:22	ZZZZZZ	1		
21:46	ZZZZZZ	1		
22:10	ZZZZZZ	1		
22:33	ZZZZZZ	1		
22:57	JC86426-1	1		
23:21	ZZZZZZ	1		
23:45	ZZZZZZ	1		
00:09	ZZZZZZ	1		
00:33	GN94202-CCV4	1		
00:57	GN94202-CCB4	1		
01:21	ZZZZZZ	1		
01:45	ZZZZZZ	1		
02:09	ZZZZZZ	1		
02:33	ZZZZZZ	1		
02:57	ZZZZZZ	1		
03:21	GN94202-CCV5	1		
03:44	GN94202-CCB5	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: 319041701.TXT Date Analyzed: 04/17/19 Methods: EPA 300/SW846 9056A
Run ID: GN94202 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN94202-ICV1	Sulfate	96.7	2.0	0.38	100	96.7	90-110
GN94202-CCV1	Sulfate	197	2.0	0.38	200	98.5	90-110
GN94202-CCB1	Sulfate	0.985	2.0	0.38			
GN94202-CCV2	Sulfate	198	2.0	0.38	200	99.0	90-110
GN94202-CCB2	Sulfate	1.07	2.0	0.38			
GN94202-CCV3	Sulfate	200	2.0	0.38	200	100.0	90-110
GN94202-CCB3	Sulfate	1.14	2.0	0.38			
GN94202-CCV4	Sulfate	197	2.0	0.38	200	98.5	90-110
GN94202-CCB4	Sulfate	1.11	2.0	0.38			
GN94202-CCV5	Sulfate	200	2.0	0.38	200	100.0	90-110
GN94202-CCB5	Sulfate	1.05	2.0	0.38			

(!) Outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: 219041901.TXT Date Analyzed: 04/19/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN94318
Parameters: Chloride

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:39	GN94318-STD1	1		Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044.
17:03	GN94318-STD2	1		RT: F=3.182 min Chl=4.646 min So4=6.557 min
17:27	GN94318-STD3	1		STDC
17:50	GN94318-STD4	1		STDCD
18:14	GN94318-STD5	1		STDD
18:38	GN94318-STD6	1		STDDE
19:02	GN94318-STD7	1		STDE
19:26	GN94318-STD8	1		STDF
19:50	GN94318-STD9	1		STDG
09:49	GN94318-ICV1	1		
10:13	GN94318-CCV1	1		
10:37	GN94318-CCB1	1		
11:01	GP20697-MB1	1		
11:25	GP20697-B1	1		
12:01	ZZZZZZ	3		
12:25	ZZZZZZ	3		
12:49	GP20698-MB2	1		
12:49	GP20737-MB1	1		
13:13	GP20698-B2	1		
13:13	GP20737-B1	1		
13:37	GP20698-S1	2		
14:01	ZZZZZZ	10		
14:25	JC86426-1	1		Over calibration curve. See rerun at dilution.
14:48	GP20737-S1	1		
15:12	GN94318-CCV2	1		
15:36	GN94318-CCB2	1		
16:00	GP20737-D1	1		
16:24	JC86512-8	1		(sample used for QC only; not part of login JC86426)
16:48	GP20737-S2	1		
17:12	JC86512-10	1		(sample used for QC only; not part of login JC86426)
17:36	ZZZZZZ	1		
18:00	ZZZZZZ	1		
18:24	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: 219041901.TXT Date Analyzed: 04/19/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN94318
Parameters: Chloride

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:48	ZZZZZZ	1		
19:12	ZZZZZZ	1		
19:36	ZZZZZZ	1		
20:00	GN94318-CCV3	1		
20:23	GN94318-CCB3	1		
20:47	ZZZZZZ	1		
21:11	ZZZZZZ	1		
21:35	ZZZZZZ	1		
21:59	ZZZZZZ	1		
22:23	ZZZZZZ	1		
22:47	ZZZZZZ	1		
23:11	ZZZZZZ	1		
23:35	ZZZZZZ	1		
23:59	ZZZZZZ	1		
00:23	JC86426-1	2		
00:47	GN94318-CCV4	1		
01:11	GN94318-CCB4	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: 219041901.TXT Date Analyzed: 04/19/19 Methods: EPA 300/SW846 9056A
Run ID: GN94318 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN94318-ICV1	Chloride	102	2.0	0.16	100	102.0	90-110
GN94318-CCV1	Chloride	198	2.0	0.16	200	99.0	90-110
GN94318-CCB1	Chloride	0.16 U	2.0	0.16			
GN94318-CCV2	Chloride	198	2.0	0.16	200	99.0	90-110
GN94318-CCB2	Chloride	0.16 U	2.0	0.16			
GN94318-CCV3	Chloride	198	2.0	0.16	200	99.0	90-110
GN94318-CCB3	Chloride	0.16 U	2.0	0.16			
GN94318-CCV4	Chloride	198	2.0	0.16	200	99.0	90-110
GN94318-CCB4	Chloride	0.16 U	2.0	0.16			

(!) Outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E90419W1.TXT Date Analyzed: 04/19/19 Methods: SM5310 B-11
Analyst: CD Run ID: GN94326
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:03	GN94326-STD1	1		STDA
13:17	GN94326-STD2	1		STDB
13:28	GN94326-STD3	1		STDC
13:42	GN94326-STD4	1		STDD
13:54	GN94326-STD5	1		STDE
14:06	GN94326-STD6	1		STDF
14:18	GN94326-STD7	1		STDG
14:31	GN94326-STD8	1		STDH
10:21	ZZZZZZ	1		
10:32	GN94326-CRI1	1		
10:44	GN94326-HSTD1	1		
10:55	GN94326-ICV1	1		
11:05	GN94326-ICB1	1		
11:17	GN94326-CCV1	1		
11:28	GN94326-CCB1	1		
11:39	ZZZZZZ	1		
11:50	GP20738-MB1	1		
12:02	GP20738-B1	1		
14:15	JC86426-1	1		
14:27	JC86461-2	1		(sample used for QC only; not part of login JC86426)
14:38	GP20738-S1	1		
14:49	GP20738-MSD1	1		
15:00	ZZZZZZ	1		
15:11	ZZZZZZ	1		
15:22	ZZZZZZ	1		
15:34	GN94326-CCVA1	1		
15:44	GN94326-CCB2	1		
15:56	ZZZZZZ	1		
16:09	ZZZZZZ	1		
16:18	ZZZZZZ	1		
16:31	ZZZZZZ	1		
16:40	ZZZZZZ	1		
16:51	GP20739-MB1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E90419W1.TXT Date Analyzed: 04/19/19 Methods: SM5310 B-11
Analyst: CD Run ID: GN94326
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:03	GP20739-B1	1		
17:14	JC86156-1	1		(sample used for QC only; not part of login JC86426)
17:25	GP20739-S1	1		
17:37	GP20739-MSD1	1		
17:48	GN94326-CCV2	1		
18:07	GN94326-CCB3	1		
18:18	ZZZZZZ	1		
18:30	ZZZZZZ	1		
18:41	ZZZZZZ	1		
18:52	ZZZZZZ	1		
19:04	ZZZZZZ	1		
19:15	ZZZZZZ	1		
19:26	ZZZZZZ	1		
19:37	ZZZZZZ	1		
19:50	GP20740-MB1	1		
19:59	GP20740-B1	1		
20:11	GN94326-CCVA2	1		
20:23	GN94326-CCB4	1		
20:32	ZZZZZZ	1		
20:44	ZZZZZZ	1		
20:57	ZZZZZZ	1		
21:06	ZZZZZZ	1		
21:17	ZZZZZZ	1		
21:29	JC86344-6	1		(sample used for QC only; not part of login JC86426)
21:40	GP20740-S1	1		
21:51	GP20740-MSD1	1		
22:02	ZZZZZZ	1		
22:13	ZZZZZZ	1		
22:25	GN94326-CCV3	1		
22:51	GN94326-CCB5	1		
22:59	ZZZZZZ	1		
23:13	ZZZZZZ	1		
23:21	GP20741-MB1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E90419W1.TXT Date Analyzed: 04/19/19 Methods: SM5310 B-11
Analyst: CD Run ID: GN94326
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
23:33	GP20741-B1	1		
23:44	ZZZZZZ	1		
23:55	ZZZZZZ	1		
00:06	JC86461-5	1		(sample used for QC only; not part of login JC86426)
00:18	GP20741-S1	1		
00:29	GP20741-MSD1	1		
00:40	ZZZZZZ	1		
00:52	GN94326-CCVA3	1		
01:04	GN94326-CCB6	1		
01:13	ZZZZZZ	1		
01:25	ZZZZZZ	1		
01:36	ZZZZZZ	1		
01:47	ZZZZZZ	1		
01:59	GN94326-CCV4	1		
02:20	GN94326-CCB7	1		
02:29	ZZZZZZ	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E90419W1.TXT Date Analyzed: 04/19/19 Methods: SM5310 B-11
Run ID: GN94326 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN94326-CRI1	Total Organic Carbon	1.03	1.0	0.72	1	103.0	70-130
GN94326-HSTD1	Total Organic Carbon	47.7	1.0	0.72	50	95.4	90-110
GN94326-ICV1	Total Organic Carbon	18.9	1.0	0.72	20	94.5	90-110
GN94326-ICB1	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCV1	Total Organic Carbon	23.5	1.0	0.72	25	94.0	90-110
GN94326-CCB1	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCVA1	Total Organic Carbon	47.9	1.0	0.72	50	95.8	
GN94326-CCB2	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCV2	Total Organic Carbon	23.4	1.0	0.72	25	93.6	90-110
GN94326-CCB3	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCVA2	Total Organic Carbon	47.5	1.0	0.72	50	95.0	
GN94326-CCB4	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCV3	Total Organic Carbon	23.5	1.0	0.72	25	94.0	90-110
GN94326-CCB5	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCVA3	Total Organic Carbon	47.6	1.0	0.72	50	95.2	
GN94326-CCB6	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCV4	Total Organic Carbon	23.6	1.0	0.72	25	94.4	90-110
GN94326-CCB7	Total Organic Carbon	0.72 U	1.0	0.72			

(!) Outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E041919W1.NO32 Date Analyzed: 04/19/19 Methods: EPA 353.2/LACHAT
Analyst: KI Run ID: GN94330
Parameters: Nitrogen, Nitrate + Nitrite

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:08	GN94330-STD1	1		STDA
12:10	GN94330-STD2	1		STDB
12:11	GN94330-STD3	1		STDC
12:12	GN94330-STD4	1		STDD
12:13	GN94330-STD5	1		STDE
12:14	GN94330-STD6	1		STDF
12:15	GN94330-STD7	1		STDG
12:17	GN94330-ICV1	1		
12:19	GN94330-ICB1	1		
12:20	GN94330-CCV1	1		
12:21	GN94330-CCB1	1		
12:22	GP20728-MB1	1		
12:23	ZZZZZZ	1		
12:24	GP20729-MB1	1		
12:25	GP20729-B1	1		
12:26	GP20729-S1	1		Over calibration curve. See rerun at dilution.
12:28	GP20729-S2	1		
12:29	GP20729-D1	1		Over calibration curve. See rerun at dilution.
12:30	JC86521-4	1		(sample used for QC only; not part of login JC86426)
12:31	ZZZZZZ	1		
12:32	ZZZZZZ	1		
12:33	GN94330-CCV2	1		
12:34	GN94330-CCB2	1		
12:35	JC86426-1	1		
12:37	ZZZZZZ	1		
12:38	ZZZZZZ	1		
12:39	ZZZZZZ	1		
12:40	JC86397-7	1		(sample used for QC only; not part of login JC86426)
12:41	ZZZZZZ	1		
12:42	ZZZZZZ	1		
12:43	ZZZZZZ	1		
12:44	ZZZZZZ	1		
12:46	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E041919W1.NO32 Date Analyzed: 04/19/19 Methods: EPA 353.2/LACHAT
Analyst: KI Run ID: GN94330
Parameters: Nitrogen, Nitrate + Nitrite

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:47	GN94330-CCV3	1		
12:48	GN94330-CCB3	1		
12:49	ZZZZZZ	1		
12:50	ZZZZZZ	1		
12:51	ZZZZZZ	1		
12:52	ZZZZZZ	1		
12:53	ZZZZZZ	1		
12:54	ZZZZZZ	1		
12:56	ZZZZZZ	1		
12:57	GP20731-MB1	1		
12:58	GP20731-B1	1		
12:59	GP20731-S1	1		
13:00	GN94330-CCV4	1		
13:01	GN94330-CCB4	1		
13:02	GP20731-S2	1		
13:03	GP20731-D1	1		
13:05	JC86616-9	1		(sample used for QC only; not part of login JC86426)
13:06	ZZZZZZ	1		
13:07	ZZZZZZ	1		
13:08	ZZZZZZ	1		
13:09	ZZZZZZ	1		
13:10	ZZZZZZ	1		
13:11	JC86461-5	1		(sample used for QC only; not part of login JC86426)
13:12	ZZZZZZ	1		
13:14	GN94330-CCV5	1		
13:15	GN94330-CCB5	1		
13:16	ZZZZZZ	1		
13:17	ZZZZZZ	1		
13:18	ZZZZZZ	1		
13:19	GP20729-S1	2		1:2 dilution
13:20	GP20729-S1	4		
13:21	GP20729-D1	2		1:2 dilution
13:23	GP20729-D1	4		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E041919W1.NO32 Date Analyzed: 04/19/19 Methods: EPA 353.2/LACHAT
Analyst: KI Run ID: GN94330
Parameters: Nitrogen, Nitrate + Nitrite

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:24	JC86521-4	2		(sample used for QC only; not part of login JC86426)
13:25	JC86521-4	4		(sample used for QC only; not part of login JC86426)
13:26	ZZZZZZ	3		
13:29	GN94330-CCV6	1		
13:30	GN94330-CCB6	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC86426
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E041919W1.NO32 Date Analyzed: 04/19/19 Methods: EPA 353.2/LACHAT
Run ID: GN94330 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN94330-ICV1	Nitrogen, Nitrate + Nitrite	2.08	0.10	0.090	2	104.0	90-110
GN94330-ICB1	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV1	Nitrogen, Nitrate + Nitrite	2.65	0.10	0.090	2.5	106.0	90-110
GN94330-CCB1	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV2	Nitrogen, Nitrate + Nitrite	2.66	0.10	0.090	2.5	106.4	90-110
GN94330-CCB2	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV3	Nitrogen, Nitrate + Nitrite	2.67	0.10	0.090	2.5	106.8	90-110
GN94330-CCB3	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV4	Nitrogen, Nitrate + Nitrite	2.67	0.10	0.090	2.5	106.8	90-110
GN94330-CCB4	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV5	Nitrogen, Nitrate + Nitrite	2.65	0.10	0.090	2.5	106.0	90-110
GN94330-CCB5	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV6	Nitrogen, Nitrate + Nitrite	2.66	0.10	0.090	2.5	106.4	90-110
GN94330-CCB6	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			

(!) Outside of QC limits

General Chemistry

Raw Data

SGS

Test: Anionic Surfactants as MBAS (Methylene Blue Active Substances)
Product: MBAS
Method: SM20 5540 C-11 (Aqueous) ◉ Units: mg/l
SM20 5540 C-11 Mod (Solids) ○ mg/kg

Analyst: JO/EB
GN Batch ID: GN94187
GP Batch ID: N/A
Date: 4/16/2019
Instrument ID: J

Original Calibration Information Calibration Date: 1/31/2019

	Blank	Std 1	Std 2	Std 3	Std 4	Std 5		
Known:	0.000	0.100	0.500	1.000	1.500	2.000		
Absorbance:	0.000	0.016	0.101	0.190	0.314	0.422		
Actual Value:	0.029	0.104	0.506	0.926	1.512	2.022	NA	NA

Continuing Calibration Check Standards Data: 4/16/2019

	Blank	Std 1	Std 5
Known:	0.000	0.100	2.000
Absorbance:	0.000	0.015	0.425
	4/16/2019		
Recovery:	0.0%	99.6%	101.8%
Actual Value:	0.029	0.100	2.037

Correlation Coeff. = 0.99890
Slope = 4.72455
Intercept = 0.02872

Bottle #	Sample ID	Analysis Time	Initial Wt (g) or Vol (ml)	Final Vol (ml)	Dilution	Sample Abs	Background Abs.	Result from Curve (mg/L)	Final Result	DL	Units	Factor	Sulfide Check + Comments
	ICV	19:00	100	100	1	0.199	NA	0.969	0.969	NA	mg/l	NA	
	CCV		100	100	1	0.192	NA	0.936	0.936	NA	mg/l	NA	
	GN94187-MB1		100	100	1	0.000	0.000	0.029	0.029	0.100	mg/l	1	
	GN94187-B1		100	100	1	0.095	0.000	0.478	0.478	0.100	mg/l	1	
	GN94187-S1		100	100	1	0.084	0.000	0.426	0.426	0.100	mg/l	1	
	GN94187-D1		100	100	1	0.005	0.000	0.052	0.052	0.100	mg/l	1	
4	JC86426-1		100	100	1	0.001	0.000	0.033	0.033	0.100	mg/l	1	NEGATIVE
	JC85413-57		100	100	1	0.008	0.000	0.067	0.067	0.100	mg/l	1	
	CCVA	20:58	100	100	1	0.425	NA	2.037	2.037	NA	mg/l	NA	
	CCV						NA			NA		NA	

BSP → 5.0ml OF 10 ppm LAS → 100ml DI H_2O

Analyst JO/EB Date 4/16/19 QC Reviewer [signature] Date 4/16/19

SGS

Test: **Anionic Surfactants as MBAS (Methylene Blue Active Substances)**
Product: **MBAS**
Method: **SM18 5540C (waters) or SM18 5540C mod. (soils) [circle one]**
Units: mg/l or mg/kg

Analyst: JO/EB
GNBatch ID: GN94187
Date: 4/16/19

Digestion Batch QC Summary Units = mg/l

Method Blank ID: GN94187-MB1 Date: 4/16/19 Result: <0.1 DL: 0.1 <DL: yes
Spike Blank ID: -B1 Date: ↓ Result: 0.478 Spike: 0.5 %Rec.: 95.6
Duplicate ID: -D1 Samp. Result: <0.1 Dup. Result: <0.1 %RPD: 0
MS ID: -S1 Samp. Result: <0.1 MS Result: 0.426 Spike 0.5 %Rec: 85.2

Method Blank ID: ____ Date: ____ Result: ____ DL: ____ <DL: ____
Spike Blank ID: ____ Date: ____ Result: ____ Spike: ____ %Rec.: ____
Duplicate ID: ____ Samp. Result: ____ Dup. Result: ____ %RPD: ____
MS ID: ____ Samp. Result: ____ MS Result: ____ Spike: ____ %Rec: ____

Analysis Batch QC Summary Units = mg/l

ICV (Ext): 4/16/19 Result: 0.969 TV: 1.0 %Rec: 96.9

CCV : ↓ Result: 0.936 TV: 1.0 %Rec.: 93.6
CCVA : ____ Result: 2.04 TV: 2.0 %Rec.: 102
CCV : ____ Result: ____ TV: ____ %Rec.: ____
CCVA : ____ Result: ____ TV: ____ %Rec.: ____
CCV : ____ Result: ____ TV: ____ %Rec.: ____
CCVA : ____ Result: ____ TV: ____ %Rec.: ____

CCB: ____ Result: ____ DL: ____ <DL: ____
CCB: ____ Result: ____ DL: ____ <DL: ____
CCB: ____ Result: ____ DL: ____ <DL: ____
CCB: ____ Result: ____ DL: ____ <DL: ____
CCB: ____ Result: ____ DL: ____ <DL: ____
CCB: ____ Result: ____ DL: ____ <DL: ____

Reagent Reference Numbers:

Analyst: JO/EB Date: 4/16/19

Comments: ____

Form: GN030-01
Rev. Date:9/4/09

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG

Product: MBAS

GN or GP Number: GN94187

Intermediate Standard Description	Stock used to prepare standard	Stock concentration	Stock volume or weight used with units	Balance or Autopipet ID (*)	Diluent	Final Volume	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
10 PPM LAS STD	1000 ppm LAS	1000 ppm	1 mL	A	DI H20	100 mL	10 ppm	4/16/2019	JO/EB	4/17/2019
	RICCA 1809B49									
	EXP SEP 2019									
10 PPM LAS ICV	1000 ppm LAS	1000 ppm	1mL	A	DI H20	100 mL	10 ppm	4/16/2019	JO/EB	4/17/2019
RICCA 1811E85	EXP NOV 2019									
Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration	Intermediate or Stock volume used in ml	Balance or Autopipet ID (*)	Diluent	Final Volume	Final Conc. of Standard (mg/l)	Expiration Date	Analyst	Date
0 PPM	N/A	N/A	N/A	N/A	DI H20	100 mL	0	4/16/2019	JO/EB	4/17/2019
0.1PPM	10 PPM LAS STOCK	10 ppm	1	A	DI H20	100 mL	0.1	4/16/2019	JO/EB	4/17/2019
0.5PPM	10 PPM LAS STOCK	10 ppm	5	A	DI H20	100 mL	0.5			
1.00PPM	10 PPM LAS STOCK	10 ppm	10	A	DI H20	100 mL	1			
1.50PPM	10 PPM LAS STOCK	10 ppm	15	A	DI H20	100 mL	1.5			
2.00PPM	10 PPM LAS STOCK	10 ppm	20	A	DI H20	100 mL	2	4/16/2019	JO/EB	4/17/2019
CCV	10 PPM LAS STOCK	10 ppm	10	A	DI H20	100 mL	1	4/16/2019	JO/EB	4/17/2019
CCVA	10 PPM LAS STOCK	10 ppm	20	A	DI H20	100 mL	2	4/16/2019	JO/EB	4/17/2019
ICV	10 PPM LAS STOCK	10 ppm	10	A	DI H20	100 mL	1	4/16/2019	JO/EB	4/17/2019

* If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the appropriate Accutest ID number.

Form: GN121-01
Rev. Date: 1/13/09

SGS

Reagent Information Log - MBAS

Reagent	Reagent # or Manufacturer/Lot
Stock LAS Solution, 1000 mg/L (STD)	RICCA 1809B49 XP: SEP 2019
Phenolphthalein Indicator Solution	GNE3-57676-MBAS XP: 9/30/2019
NaOH Solution, 1.0N	GNE2-57264-MBAS XP8/15/19
H_2SO_4 Solution 1.0N	GNE2-57265-MBAS XP8/15/19
Chloroform	FISHER 188791 XP: 3/30/2024
Methylene Blue intermediate	GNE2-57267-MBAS XP8/15/19
Wash Solution	GNE2-57268-MBAS XP8/15/19
MBAS color	GNE2-57266-MBAS XP8/15/19
H2SO4 Solution 6.0N	GNE2-57269-MBAS XP8/15/19
Stock LAS Solution, 1000 mg/L (ICV)	RICCA 1811E85 XP:NOV 2019

All standards and stocks were made as described in the SOP for this method (circle one): Y or N
If no (N), see attached page for standards prep.

Form: GN087A-39
Rev. Date:4/16/2019

SGS

MDL Schedule Log

DAY 1

Product: MBAS

Matrix: AQ

Instrument: SPEC J

+ MB

Sample #: JC85413-57 MDL or MDLVER x 1

Concentration: 0.05 mg/L or mg/kg or _____

Prep: 0.5ml of 10ppm LAS → 100ml DI H_2O

Extract the same.

Sample #: _____ MDL or MDLVER x _____

Concentration: _____ mg/L or mg/kg or _____

Prep: _____

_____

Date: 4/16/19

Analyst: JD/EB

Batch #: GN94187

Form: GN278-04
Revised: 3/2/18

SGS

Test: Nitrogen, Nitrite
Product: NO2
Method: SM4500NO2 B-11 (Aqueous) ◉ Units: mg/l
SM4500NO2 B-11 M (Solids) ○ mg/kg

Analyst: MO
GN Batch ID: GN94198
GP Batch ID:
Date: 4/16/2019
Instrument ID: N

Original Calibration Information Calibration Date: 1/28/2019

	Blank	Std 1	Std 2	Std 3	Std 4	Std 5	Std 6	Std 7
Known:	0.000	0.010	0.025	0.050	0.075	0.100	0.200	
Absorbance:	0.001	0.038	0.090	0.174	0.267	0.353	0.699	
Actual Value:	0.000	0.010	0.025	0.049	0.076	0.100	0.200	

Continuing Calibration Check Standards Data:

	Blank	Std 1	Std 6
Known:	0.000	0.010	0.200
Absorbance:	0.000	0.036	0.714
Recovery:	0.0%	96.3%	102.0%
Actual Value:		0.010	0.204

Correlation Coeff. = 0.99997
Slope = 0.28658
Intercept = -0.00069

Bottle #	Sample ID	Time Analyzed	Initial Wt (g) or Vol (ml)	Final Vol (ml)	Dilution	Sample Abs	Background Abs.	Result From Curve (mg/L)	Final Result	DL	Units	Factor	pH between 5 and 9 (Y or N)
	ICV	23:06	50	50	1	0.361	NA	0.103	0.103	NA	mg/l	NA	Y
	CCV		50	50	1	0.355	NA	0.101	0.101	NA	mg/l	NA	Y
	GN94198-MB1		50	50	1	0.000	0.000	-0.001	-0.001	0.010	mg/l	1	Y
	GN94198-B1		50	50	1	0.133	0.000	0.037	0.037	0.010	mg/l	1	Y
	GN94198-S1		50	50	1	0.141	0.001	0.039	0.039	0.010	mg/l	1	Y
	GN94198-D1		50	50	1	0.013	0.001	0.003	0.003	0.010	mg/l	1	Y
3	JC86449-1		50	50	1	0.015	0.001	0.003	0.003	0.010	mg/l	1	Y
7	JC86426-1		50	50	1	0.037	0.001	0.010	0.010	0.010	mg/l	1	Y
9^	JC86397-7		50	50	1	0.097	0.044	0.014	0.014	0.010	mg/l	1	Y
9^	JC86397-8		50	50	5	0.051	0.045	0.001	0.005	0.050	mg/l	1	Y
9^	JC86397-9		50	50	1	0.040	0.003	0.010	0.010	0.010	mg/l	1	Y
5^	JC86412-1		50	50	1	0.083	0.034	0.013	0.013	0.010	mg/l	1	Y
	CCVA		50	50	1	0.714	NA	0.204	0.204	NA	mg/l	NA	Y
7	JC86461-2		50	50	1	0.019	0.002	0.004	0.004	0.010	mg/l	1	Y
5	JC86461-3		50	50	1	0.052	0.049	0.000	0.000	0.010	mg/l	1	Y
5	JC86461-4		50	50	1	0.046	0.044	0.000	0.000	0.010	mg/l	1	Y
5	JC86461-5		50	50	1	0.016	0.013	0.000	0.000	0.010	mg/l	1	Y
5	JC86461-6		50	50	1	0.027	0.021	0.001	0.001	0.010	mg/l	1	Y
5	JC86461-7		50	50	1	0.015	0.009	0.001	0.001	0.010	mg/l	1	Y
5	JC86461-8		50	50	1	0.008	0.000	0.002	0.002	0.010	mg/l	1	Y
5	JC86461-9		50	50	1	0.013	0.000	0.003	0.003	0.010	mg/l	1	Y
5^	JC86461-10		50	50	1	0.037	0.001	0.010	0.010	0.010	mg/l	1	Y
	JC80486-2		50	50	1	0.042	0.000	0.011	0.011	0.010	mg/l	1	Y
	CCV		50	50	1	0.342	NA	0.097	0.097	NA	mg/l	NA	Y
	JC80486-2A		50	50	1	0.020	0.000	0.005	0.005	0.010	mg/l	1	Y
			50	50	1								Y
			50	50	1								Y
			50	50	1								Y
			50	50	1								Y
			50	50	1								Y
			50	50	1								Y
			50	50	1								Y
			50	50	1								Y
			50	50	1								Y
	CCVA	23:39	50	50	1	0.707		0.202	0.202	NA	mg/l	NA	Y

BS/MS: 2ml of 1ppm spike + 50ml w/ DI sample

QC: JC86449-1

^ = filtered

JC86397-8 diluted due to background interference

Analyst: MO Date: 4/16/19 QC Reviewer: [signature] Date: 4/16/19

13.2 13

SGS

Test: **Nitrogen, Nitrite**
Product: **NO2**
Method: **SM18 4500 NO2B (aqueous)**
SM18 4500 NO2B M (solids)

Units: mg/l
mg/kg

Analyst: MD
GNBatch ID: GN94198
GPBatch ID:
Date: 4/16/19

Preparation Batch QC Summary Units = mg/l

Method Blank ID: GN94198-MB Date: 4/16/19 Result: LRC DL: 0.01 <DL: Y
Spike Blank ID: -B1 Date: I Result: 0.037 Spike: 0.04 %Rec.: 92.5%
Duplicate ID: -D1 Samp. Result: 0.003 Dup. Result: 0.003 %RPD: 0
MS ID: -S1 Samp. Result: 0.003 MS Result: 0.039 Spike: 0.04 %Rec: 90.7%

Method Blank ID: Date: Result: DL: <DL:
Spike Blank ID: Date: Result: Spike: %Rec.:
Duplicate ID: Samp. Result: Dup. Result: %RPD:
MS ID: Samp. Result: MS Result: Spike: %Rec:

Analysis Batch QC Summary Units = mg/l

ICV (Ext): 4/16/19 Result: 0.103 TV: 0.1 %Rec: 103%

CCV : Result: 0.101 TV: 0.1 %Rec.: 101%
CCVA : Result: 0.204 TV: 0.2 %Rec.: 102%
CCV : Result: 0.097 TV: 0.1 %Rec.: 97%
CCVA : Result: 0.202 TV: 0.2 %Rec.: 101%
CCV : Result: TV: %Rec.:
CCVA : Result: TV: %Rec.:

CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:

Reagent Reference Numbers:

Analyst: MD Date: 4/16/19

Comments:

Form: GN032-01
Rev. Date:9/4/09

13.2
13

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG

Product: NO2

GN or GP Number: GN94198

Intermediate Standard Description	Stock used to prepare standard	Stock concentration	Stock volume or weight used with units	Balance or Auto pipet ID (*)	Diluent	Final Volume	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
NO2 10 mg/L	ERA Lot 190917 Exp: 9/30/2019	1000 mg/L	1.0 ml	A	DI water	100 ml	10 mg/L	4/16/2019	MO	4/16/2019
NO2 1 mg/L	NO2 10 mg/L (STD)	100 mg/L	10.0 ml	A	DI water	100 ml	1 mg/L	4/16/2019	MO	4/16/2019
NO2 10 mg/L	ERA Lot 020518 Exp: 5/30/2020	1000 mg/L	1.0 ml	A	DI water	100 ml	10 mg/L	4/16/2019	MO	4/16/2019
NO2 1 mg/L	NO2 10 mg/L (ICV)	100 mg/L	10.0 ml	A	DI water	100 ml	1 mg/L	4/16/2019	MO	4/16/2019

Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration	Intermediate or Stock volume used in ml	Balance or Auto pipet ID (*)	Diluent	Final Volume	Final Conc. of Standard (mg/l)	Expiration Date	Analyst	Date
0.2 mg/L	1.0 mg/L	1.0 mg/L	20.0 ml	A	DI water	100 ml	3/1/2019	4/16/2019	MO	4/16/2019
0.01 mg/L	1.0 mg/L	1.0 mg/L	1.0 ml	A	DI water	100 ml	3/1/2019	4/16/2019	MO	4/16/2019
0 mg/L	NA	NA	NA	NA	NA	100 ml	NA	4/16/2019	MO	4/16/2019
ICV	1.0 mg/L	1.0 mg/L	10.0 ml	A	DI water	100 ml	0.1 mg/L	4/16/2019	MO	4/16/2019
CCV	1.0 mg/L	1.0 mg/L	10.0 ml	A	DI water	100 ml	0.1 mg/L	4/16/2019	MO	4/16/2019
CCVA	1.0 mg/L	1.0 mg/L	20.0 ml	A	DI water	100 ml	0.2 mg/L	4/16/2019	MO	4/16/2019

* If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the appropriate Accutest ID number.

Form: GN121-01
Rev. Date: 1/13/09

SGS

Reagent Information Log - Nitrite as Nitrogen

GN94198

Reagent	Reagent # or Manufacturer/Lot
Calibration Source: 1000 mg/l nitrite stock	ERA LOT#190917 XP:9/30/2019
External Check	ERA LOT #020518 XP: 5/30/2020
Spiking Solution Source (1 PPM)	ERA LOT#190917 XP:9/30/2019
Color Reagent	GNE3-57628-NO2 XP:4/25/2019
NH4OH	FISHER 153331 XP:7/15/21

All standards and stocks were made as described in the SOP for this method (circle one): (Y) or N
If no (N), see attached page for standards prep.

Form: GN087A-42
Rev. Date:4/16/2019

SGS

Test: Iron, Ferrous
Product: FE2
Method: SM3500FE D-11 ◉ **Units:** mg/l

Analyst: MO
GN Batch ID: GN94199
GP Batch ID:
Date: 4/16/2019
Instrument ID: N

Original Calibration Information **Calibration Date:** 2/9/2019

	Blank	Std 1	Std 2	Std 3	Std 4	Std 5	Std 6	Std 7
Known:	0.000	0.100	0.200	0.500	1.000	2.000	4.000	6.000
Absorbance:	0.000	0.014	0.022	0.055	0.112	0.225	0.448	0.658
Actual Value:	-0.016	0.111	0.184	0.484	1.001	2.027	4.051	5.957

Continuing Calibration Check Standards Data:

	Blank	Std 1	Std 6
Known:	0.000	0.100	6.000
Absorbance:	0.000	0.013	0.653
Recovery:	0.0%	102.4%	98.5%
Actual Value:	-0.016	0.102	5.912

Correlation Coeff. = 0.99991
Slope = 9.07769
Intercept = -0.01565

Bottle #	Sample ID	Time Analyzed	Initial Wt (g) or Vol (ml)	Final Vol (ml)	Dilution	Sample Abs	Background Abs.	Result From Curve (mg/L)	Final Result	RL (Normal RL = 0.200 mg/l)	Units	Factor	pH Adjust
	ICV	23:52	50	50	1	0.122	NA	1.092	1.092	NA	mg/l	NA	NA
	CCV		50	50	1	0.116	NA	1.037	1.037	NA	mg/l	NA	NA
	GN94199-MB1		50	50	1	0.000	0.000	-0.016	-0.016	0.200	mg/l	1	NA
	GN94199-B1		50	50	1	0.329	0.000	2.971	2.971	0.200	mg/l	1	NA
7	GN94199-S1		50	50	1	0.336	0.001	3.025	3.025	0.200	mg/l	1	NA
7	GN94199-D1		50	50	1	0.002	0.001	-0.007	-0.007	0.200	mg/l	1	NA
7	JC86426-1		50	50	1	0.002	0.001	-0.007	-0.007	0.200	mg/l	1	NA
	JC80483-2		50	50	1	0.014	0.000	0.111	0.111	0.200	mg/l	1	NA
	JC80483-2A		50	50	1	0.008	0.000	0.057	0.057	0.200	mg/l	1	NA
7	GN94199-DS1		50	50	1	0.331	0.001	2.980	2.980	0.200	mg/l	1	NA
			50	50	1								NA
			50	50	1								NA
	CCV	0:03	50	50	1	0.653	NA	5.912	5.912	NA	mg/l	NA	NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA

BS/MS/DS: 1.5ml of 200mg/l spike + 100ml w/ DI/Sample
QC: JC86426-1

Analyst: MO Date: 4/16/19 QC Reviewer: [signature] Date: 4/17/19

SGS

Test: **IRON, FERROUS**
Product: **FE2**
Method: **SM18 3500FE B-2011 (aqueous)** Units: mg/l

Analyst: MD
GNBatch ID: GN94199
GPBatch ID:
Date: 4/16/19

Preparation Batch QC Summary Units = mg/l

Method Blank ID: GN94199MB Date: 4/16/19 Result: LRL DL: 0.2 <DL: Y
Spike Blank ID: -B1 Date: " Result: 2.971 Spike: 3 %Rec.: 99%
MS Blank ID: -S1 Date: " Results: 3.025 Samp. Result: -0.007 Spike: 3 %Rec.: 101%
MS Duplicate ID: -D1 Date: " Results: 2.980 Samp. Result: -0.007 Spike: 3 %Rec.: 99.6%
Duplicate ID: -D1 Date: " Dup. Result: -0.007 Samp. Result: -0.007 %RPD.: 0
Matrix spike Duplicate Result: 2.980 Matrix spike Result: 3.025 %RPD: 1.5%

Analysis Batch QC Summary Units = mg/l

ICV (Ext): 4/16/19 Result: 1.092 TV: 1 %Rec: 109.2%

CCV : Result: 1.037 TV: 1 %Rec.: 103.7%
CCVA : Result: 5.912 TV: 6 %Rec.: 98.5%
CCV : Result: TV: %Rec.:
CCVA : Result: TV: %Rec.:
CCV : Result: TV: %Rec.:
CCVA : Result: TV: %Rec.:

CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:

Reagent Reference Numbers:

Analyst: MD Date: 4/16/19

Comments:

Form: GN032-01
Rev. Date:9/4/09

SGS

Reagent Information Log
Test Name: FERROUS IRON (FE2)

GN94199

Reagent	Reagent # or Manufacturer/Lot
PHENANTHROLINE REAGENT	GNE3-57507-FE2 XP:9/15/2019
AMMONIUM ACETATE BUFFER	GNE3-57404-FE2 XP:9/2/2019
FE2 STOCK	GNE4-57762-FE2 XP 5/2/19
ICV	GNE4-57763-FE2 XP 5/2/19

All standards and stocks were made as described in the SOP for this method (circle one): (Y) or N
If no (N), see attached page for standards prep.

Form: GN087-01
Rev. Date:4/16/2019

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG

Product: Fe2

GN or GP Number: GN94199

Intermediate Standard Description	Stock used to prepare standard	Stock concentration	Stock volume or weight used with units	Balance or Autopipet ID (*)	Additional Reagents	Diluent	Final Volume	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
10.00 mg/l STD	GNE4-57762-FE2	200 mg/L	5.00 mL	A		DI water	100mls	10	04/16/19	MO	04/16/19
10.00 mg/l ICV	GNE4-57763-FE2	200 mg/L	5	A		DI water	100mls	10	04/16/19	MO	04/16/19

Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration	Intermediate or Stock volume used in ml	Balance or Autopipet ID (*)	Additional Reagents	Diluent	Final Volume	Final Conc. of Standard (mg/l)	Expiration Date		Date
BLANK		0 mg/l	0.00	A	2.00 ml of concentrated HCL and 1.00 ml of hydroxylamine hydrochloride added to each standard.	DI water	100 ml	0.00			
0.10 mg/l	GNE4-57762-FE2	10 mg/l	1.00	A		DI water	100 ml	0.10	04/16/19	MO	04/16/19
0.20 mg/l	GNE4-57762-FE2	10 mg/l	2.00	A		DI water	100 ml	0.20	04/16/19	MO	04/16/19
0.50 mg/l	GNE4-57762-FE2	10 mg/l	5.00	A		DI water	100 ml	0.50	04/16/19	MO	04/16/19
1.00 mg/l	GNE4-57762-FE2	10 mg/l	10.00	A		DI water	100 ml	1.00	04/16/19	MO	04/16/19
2.00 mg/l	GNE4-57762-FE2	200 mg/l	1.00	A		DI water	100 ml	2.00	04/16/19	MO	04/16/19
4.00 mg/l	GNE4-57762-FE2	200 mg/l	2.00	A		DI water	100 ml	4.00	04/16/19	MO	04/16/19
6.00 mg/l	GNE4-57762-FE2	200 mg/l	3.00	A		DI water	100 ml	6.00	04/16/19	MO	04/16/19
ICV	GNE4-57763-FE2	10 mg/l	10.00	A		DI water	100 ml	5.00	04/16/19	MO	04/16/19
CCV	GNE4-57762-FE2	10 mg/l	10.00	A		DI water	100 ml	5.00	04/16/19	MO	04/16/19

Form: GN121-01
Rev. Date: 1/13/09

SGS

LOD and LOQ Scheduling

LOD Sample ID: IC80483-2A

Product:	Fe2	**Matrix:**	AQ
LOD Concentration:	0.05	**Units:**	mg/L
LOD Prep:	0.025ml spike ↑100ml w/ DI water		
Manufacturer/Lot:	GNE4-57762-FE2	**Expiration Date:**	5/2/19
GN ID:	GN94199	**Analysis Date:**	4/16/19
Result/Units:	0.057	**Recovery:**	114%
Within range of 50 to 150%? **	Y		

LOQ (RL) Sample ID: IC80483-2

Product:	Fe2	**Matrix:**	AQ
LOQ Concentration:	0.1	**Units:**	mg/L
LOQ Prep:	0.05ml spike ↑100ml w/ DI water		
Manufacturer/Lot:	GNE4-57762-FE2	**Expiration Date:**	5/2/19
GN ID:	GN94199	**Analysis Date:**	4/16/19
Result/Units:	0.111	**Recovery:**	111%
Within range of 70 to 130%? **	Y		

** if outside of range, notify supervisory team immediately to reschedule

Analyst: MO Date: 4/16/19

QC Review: Date:

Form: GN271-02
Rev. Date: 3/2/18

13.3 13

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: 319041701.TXT
Analyst: NV

Date Analyzed: 04/17/19
Run ID: GN94202

Methods: EPA 300/SW846 9056A

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: NV Date 4/18/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date 4/18/19

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: 319041701.TXT
Analyst: NV

Date Analyzed: 04/17/19
Run ID: GN94202

Methods: EPA 300/SW846 9056A

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: NV Date 4/17/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date _____

Sequence: 319041701
Operator: chemistry

Printed: 4/18/2019 9:00:28 AM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_3\sequencesanions\2019\APRIL
Timebase: ACCUTEST_SYS#3
#Samples: 57

GN94202

Created: 4/17/2019 9:10:03 AM by chemistry
Last Update: 4/17/2019 5:38:49 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
1	BLANKCONF	1		Unknown	20.0	1.0000	Finished	4/17/2019 9:24:41 AM
2	STDA	2		Standard	20.0	1.0000	Finished	4/16/2019 10:35:20 AM
3	STDB	3		Standard	20.0	1.0000	Finished	4/16/2019 10:59:15 AM
4	STDC	4		Standard	20.0	1.0000	Finished	4/16/2019 11:23:12 AM
5	STDCD	5		Standard	20.0	1.0000	Finished	4/16/2019 11:47:07 AM
6	STDD	6		Standard	20.0	1.0000	Finished	4/16/2019 12:11:03 PM
7	STDDE	7		Standard	20.0	1.0000	Finished	4/16/2019 12:34:58 PM
8	STDE	8		Standard	20.0	1.0000	Finished	4/16/2019 12:58:53 PM
9	STDF	9		Standard	20.0	1.0000	Finished	4/16/2019 1:22:49 PM
10	STDG	10		Standard	20.0	1.0000	Finished	4/16/2019 1:57:59 PM
11	ICV	2		Unknown	20.0	1.0000	Finished	4/17/2019 9:48:24 AM
12	CCV	3		Unknown	20.0	1.0000	Finished	4/17/2019 10:12:19 AM
13	CCB	4		Unknown	20.0	1.0000	Finished	4/17/2019 10:36:15 AM
14	MB	5		Unknown	20.0	1.0000	Finished	4/17/2019 11:00:10 AM
15	BSP	6		Unknown	20.0	1.0000	Finished	4/17/2019 11:24:06 AM
16	JC85319-1	7		Unknown	20.0	2.0000	Finished	4/17/2019 11:48:01 AM
17	JC85156-1	8		Unknown	20.0	2.0000	Finished	4/17/2019 12:11:57 PM
18	JC85156-3	9		Unknown	20.0	2.0000	Finished	4/17/2019 12:35:52 PM
19	GP20625-S1	10	JC85156-5	Unknown	20.0	5.0000	Finished	4/17/2019 12:59:47 PM
20	GP20625-D1	11	JC85156-5	Unknown	20.0	3.0000	Finished	4/17/2019 1:23:43 PM
21	JC85156-5	12		Unknown	20.0	3.0000	Finished	4/17/2019 1:47:39 PM
22	JC85156-6	13		Unknown	20.0	3.0000	Finished	4/17/2019 2:11:34 PM
23	JC85565-2	14		Unknown	20.0	2.0000	Finished	4/17/2019 2:35:29 PM
24	CCV	15		Unknown	20.0	1.0000	Finished	4/17/2019 2:59:23 PM
25	CCB	16		Unknown	20.0	1.0000	Finished	4/17/2019 3:23:18 PM
26	JC85565-3	17		Unknown	20.0	5.0000	Finished	4/17/2019 3:47:14 PM
27	MB	18		Unknown	20.0	1.0000	Finished	4/17/2019 4:11:09 PM
28	BSP	19		Unknown	20.0	1.0000	Finished	4/17/2019 4:35:05 PM
29	GP20673-S1	20	JC86327-1	Unknown	20.0	1.0000	Finished	4/17/2019 4:59:01 PM
30	GP20673-D1	21	JC86327-1	Unknown	20.0	1.0000	Finished	4/17/2019 5:22:56 PM
31	JC86327-1	22		Unknown	20.0	1.0000	Finished	4/17/2019 5:46:51 PM
32	GP20673-S2	23	JC86327-2	Unknown	20.0	1.0000	Finished	4/17/2019 6:10:46 PM
33	JC86327-2	24		Unknown	20.0	1.0000	Finished	4/17/2019 6:34:42 PM
34	JC86327-3	25		Unknown	20.0	1.0000	Finished	4/17/2019 6:58:36 PM
35	JC86327-4	26		Unknown	20.0	1.0000	Finished	4/17/2019 7:22:32 PM
36	CCV	27		Unknown	20.0	1.0000	Finished	4/17/2019 7:46:28 PM
37	CCB	28		Unknown	20.0	1.0000	Finished	4/17/2019 8:10:23 PM
38	JC86327-5	29		Unknown	20.0	1.0000	Finished	4/17/2019 8:34:18 PM
39	JC86327-6	30		Unknown	20.0	1.0000	Finished	4/17/2019 8:58:13 PM
40	JC86327-7	31		Unknown	20.0	1.0000	Finished	4/17/2019 9:22:09 PM
41	JC86327-8	32		Unknown	20.0	1.0000	Finished	4/17/2019 9:46:05 PM
42	JC85970-1	33		Unknown	20.0	1.0000	Finished	4/17/2019 10:10:00 PM

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 319041701
Operator: chemistry

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_3\sequencesanions\2019\APRIL
Timebase: ACCUTEST_SYS#3
#Samples: 57

Created: 4/17/2019 9:10:03 AM by chemistry
Last Update: 4/17/2019 5:38:49 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
43	JC85970-2	34		Unknown	20.0	1.0000	Finished	4/17/2019 10:33:56 PM
44	JC86426-1	35		Unknown	20.0	1.0000	Finished	4/17/2019 10:57:52 PM
45	JC86140-1	36		Unknown	20.0	1.0000	Finished	4/17/2019 11:21:47 PM
46	JC86140-2	37		Unknown	20.0	1.0000	Finished	4/17/2019 11:45:42 PM
47	JC86140-3	38		Unknown	20.0	1.0000	Finished	4/18/2019 12:09:38 AM
48	CCV	39		Unknown	20.0	1.0000	Finished	4/18/2019 12:33:33 AM
49	CCB	40		Unknown	20.0	1.0000	Finished	4/18/2019 12:57:29 AM
50	JC86140-5	41		Unknown	20.0	1.0000	Finished	4/18/2019 1:21:24 AM
51	JC86287-1	42		Unknown	20.0	1.0000	Finished	4/18/2019 1:45:19 AM
52	JC86461-2	43		Unknown	20.0	1.0000	Finished	4/18/2019 2:09:14 AM
53	JC86461-7	44		Unknown	20.0	1.0000	Finished	4/18/2019 2:33:10 AM
54	JC86461-8	45		Unknown	20.0	1.0000	Finished	4/18/2019 2:57:06 AM
55	CCV	46		Unknown	20.0	1.0000	Finished	4/18/2019 3:21:01 AM
56	CCB	47		Unknown	20.0	1.0000	Finished	4/18/2019 3:44:57 AM
57	STANDBY	48		Unknown	20.0	1.0000	Finished	4/18/2019 4:08:53 AM

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 319041701
Operator: chemistry

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_3\sequencesanions\2019\APRIL
Timebase: ACCUTEST_SYS#3
#Samples: 54 GN94202

Created: 4/17/2019 9:10:03 AM by chemistry
Last Update: 4/17/2019 11:43:01 AM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
1	BLANKCONF	1		Unknown	20.0	1.0000	Finished	4/17/2019 9:24:41 AM
2	STDA	2		Standard	20.0	1.0000	Finished	4/16/2019 10:35:20 AM
3	STDB	3		Standard	20.0	1.0000	Finished	4/16/2019 10:59:15 AM
4	STDC	4		Standard	20.0	1.0000	Finished	4/16/2019 11:23:12 AM
5	STDCD	5		Standard	20.0	1.0000	Finished	4/16/2019 11:47:07 AM
6	STDD	6		Standard	20.0	1.0000	Finished	4/16/2019 12:11:03 PM
7	STDDE	7		Standard	20.0	1.0000	Finished	4/16/2019 12:34:58 PM
8	STDE	8		Standard	20.0	1.0000	Finished	4/16/2019 12:58:53 PM
9	STDF	9		Standard	20.0	1.0000	Finished	4/16/2019 1:22:49 PM
10	STDG	10		Standard	20.0	1.0000	Finished	4/16/2019 1:57:59 PM
11	ICV	2		Unknown	20.0	1.0000	Finished	4/17/2019 9:48:24 AM
12	CCV	3		Unknown	20.0	1.0000	Finished	4/17/2019 10:12:19 AM
13	CCB	4		Unknown	20.0	1.0000	Finished	4/17/2019 10:36:15 AM
14	MB	5		Unknown	20.0	1.0000	Finished	4/17/2019 11:00:10 AM
▶	BSP	6		Unknown	20.0	1.0000	Running	4/17/2019 11:24:06 AM
16	JC85319-1	7		Unknown	20.0	2.0000	Single	
17	JC85156-1	8		Unknown	20.0	2.0000	Single	
18	JC85156-3	9		Unknown	20.0	2.0000	Single	
19	GP20625-S1	10	JC85156-5	Unknown	20.0	5.0000	Single	
20	GP20625-D1	11	JC85156-5	Unknown	20.0	3.0000	Single	
21	JC85156-5	12		Unknown	20.0	3.0000	Single	
22	JC85156-6	13		Unknown	20.0	3.0000	Single	
23	JC85565-2	14		Unknown	20.0	2.0000	Single	
24	CCV	15		Unknown	20.0	1.0000	Single	
25	CCB	16		Unknown	20.0	1.0000	Single	
26	JC85565-3	17		Unknown	20.0	5.0000	Single	
27	MB	18		Unknown	20.0	~~10.0000~~	Single	
28	BSP	19		Unknown	20.0	1.0000	Single	
29	GP20673-S1	20	JC86327-1	Unknown	20.0	1.0000	Single	
30	GP20673-D1	21	JC86327-1	Unknown	20.0	1.0000	Single	
31	JC86327-1	22		Unknown	20.0	1.0000	Single	
32	GP20673-S2	23	JC86327-2	Unknown	20.0	1.0000	Single	
33	JC86327-2	24		Unknown	20.0	1.0000	Single	
34	JC86327-3	25		Unknown	20.0	1.0000	Single	
35	JC86327-4	26		Unknown	20.0	1.0000	Single	
36	CCV	27		Unknown	20.0	1.0000	Single	
37	CCB	28		Unknown	20.0	1.0000	Single	
38	JC86327-5	29		Unknown	20.0	1.0000	Single	
39	JC86327-6	30		Unknown	20.0	1.0000	Single	
40	JC86327-7	31		Unknown	20.0	1.0000	Single	
41	JC86327-8	32		Unknown	20.0	1.0000	Single	
42	JC85970-1	33		Unknown	20.0	1.0000	Single	

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 319041701
Operator: chemistry

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_3\sequencesanions\2019\APRIL
Timebase: ACCUTEST_SYS#3
#Samples: 57

Created: 4/17/2019 9:10:03 AM by chemistry
Last Update: 4/17/2019 3:53:45 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
43	JC85970-2	34		Unknown	20.0	1.0000	Single	
44	JC86426-1	35		Unknown	20.0	1.0000	Single	
45	JC86140-1	36		Unknown	20.0	1.0000	Single	
46	JC86140-2	37		Unknown	20.0	1.0000	Single	
47	JC86140-3	38		Unknown	20.0	1.0000	Single	
48	CCV	39		Unknown	20.0	1.0000	Single	
49	CCB	40		Unknown	20.0	1.0000	Single	
50	JC86140-5	41		Unknown	20.0	1.0000	Single	
51	JC86287-1	42		Unknown	20.0	1.0000	Single	
52	JC86461-2	43		Unknown	20.0	1.0000	Single	
53	JC86461-7	44		Unknown	20.0	1.0000	Single	
54	JC86461-8	45		Unknown	20.0	1.0000	Single	
55	CCV	46		Unknown	20.0	1.0000	Single	
56	CCB	47		Unknown	20.0	1.0000	Single	
57	STANDBY	48		Unknown	20.0	1.0000	Single	

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

SGS

Analyst NV

Product CN1, Soy, P NV 4/17/19

Prep Date 4/17/19

Batch ID GN94202

Pipette ID 42

Balance ID NA

Sample Prep Log

Sample ID	Initial Sample Amount	Final Volume (mL)	
BSP	0.5mL of spiking solution	50	
GP20673-S1	0.5mL of spiking solution	50	JC86327-1
GP20673-S2	0.5mL of spiking solution	50	JC86327-2

4/18/19

Form: GN166-02
Rev. Date: 8/5/05

QC Review

13.4 13

Analyst NV Product Chl, Soy Autopipette #

Date 4/17/19 Batch ID GN94202 Class A Vol. Flask

Sample Dilution Prep Log

Sample ID	Dilution	Initial Volume	Final Volume	Comments
JC85319-1	1:2	10	20	Soy
JC85156-1	1:2	10	20	Chl
JC85156-3	1:2	10	20	Soy
GP20625-S1	1:5	10	50	Chl JC85156-5 0.5mL spike
GP20625 D1	1:3	10	30	Chl JC85156-5
JC85156-5	1:3	10	30	Chl
JC85156-6	1:3	10	30	Chl
JC85565-2	1:2	10	20	Soy
JC85565-3	1:5	10	50	Chl

Form: GN165-01
Rev. Date: 2/25/03

SGS

Reagent Information Log - IONC IC3 - Water /Soil

GN Batch ID#: GN94202

Reagent	Reagent # or Manufacturer/Lot	Exp. Date
Standard Intermediate (for Calibration Curve)	GN18-476-124	4/21/2019
Standard Intermediate (for Calibration Curve)	GN18-476-126	4/21/2019
ICV	GN18-479-37	4/21/2019
Eluent	18074262011	7/24/2020
Standard Intermediate (for Working std/Spikes)	GN18-476-124	4/21/2019
Standard Intermediate (for Working std/Spikes)	GN18-476-126	4/21/2019
CCV	GN19-493-13	4/21/2019
Spiking Solution Intermediate (CHL/SO4)	GN18-478-35	4/30/2019
Spiking Solution Intermediate (F/BRO)	GN18-478-36	4/30/2019
Spiking Solution (SOUP)	GN18-478-39	4/21/2019
Filter lot numbers	GREENWOOD #180111044	NA

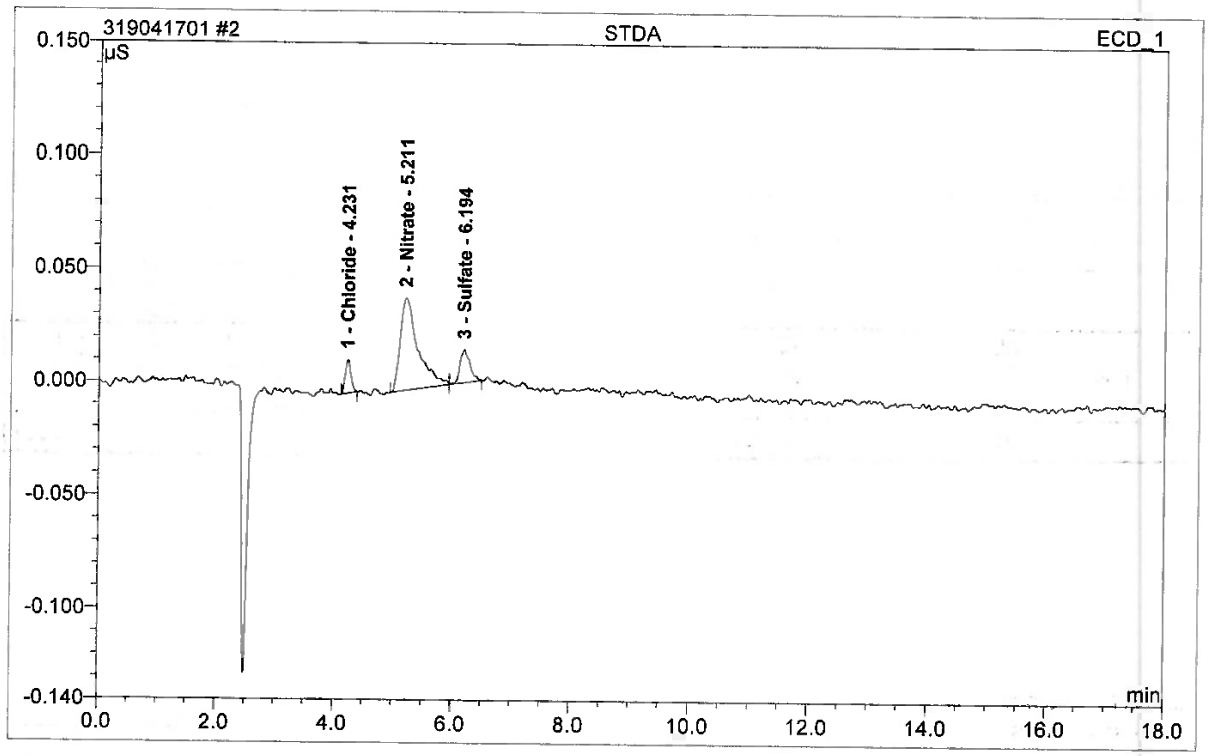
Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error

Form : GN087A-76
Rev. Date: 4/7/09

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

2 STDA

Sample Name:	**STDA**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/16/2019 10:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.23	Chloride	0.015	0.002	8.87	-0.120	BMB
2	5.21	Nitrate	0.041	0.014	75.84	0.127	BM
3	6.19	Sulfate	0.015	0.003	15.29	0.603	MB
Total:			0.071	0.019	100.00	0.610	

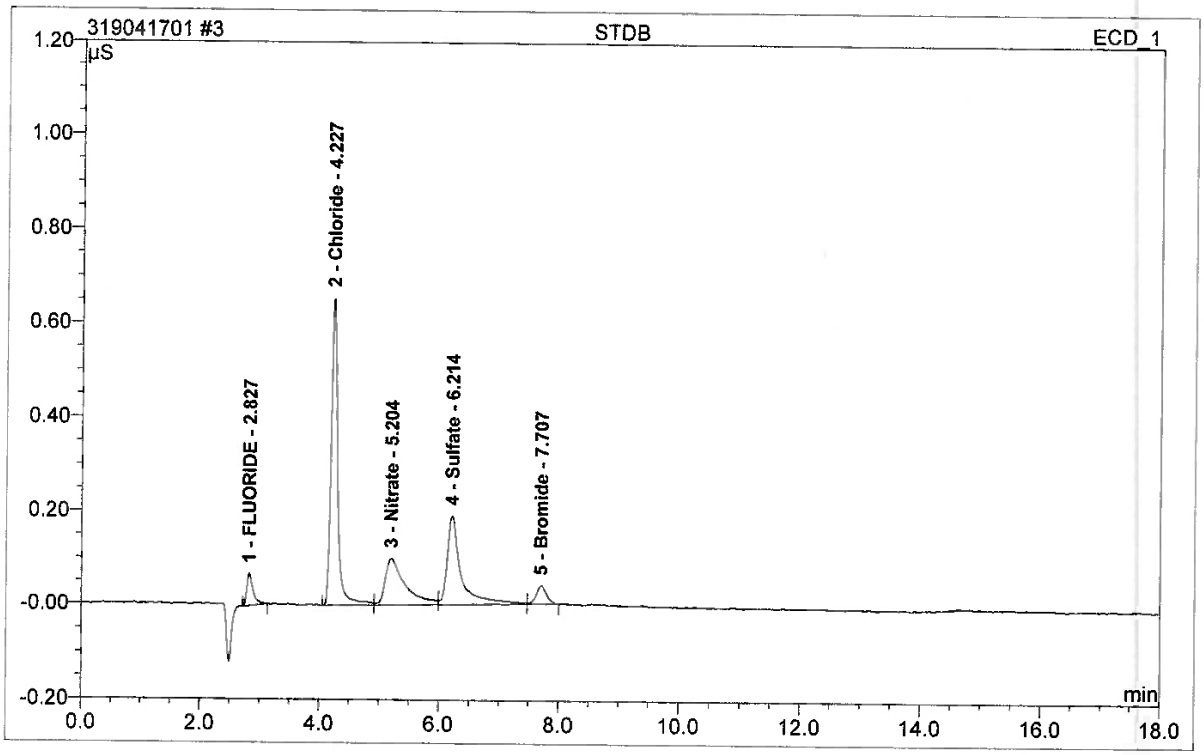
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

3 STDB

Sample Name:	**STDB**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/16/2019 10:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.070	0.008	4.30	0.052	BMB
2	4.23	Chloride	0.655	0.085	44.05	0.290	BM
3	5.20	Nitrate	0.101	0.039	20.18	0.180	M
4	6.21	Sulfate	0.192	0.052	27.22	0.929	M
5	7.71	Bromide	0.040	0.008	4.26	0.269	MB
Total:			1.058	0.193	100.00	1.720	

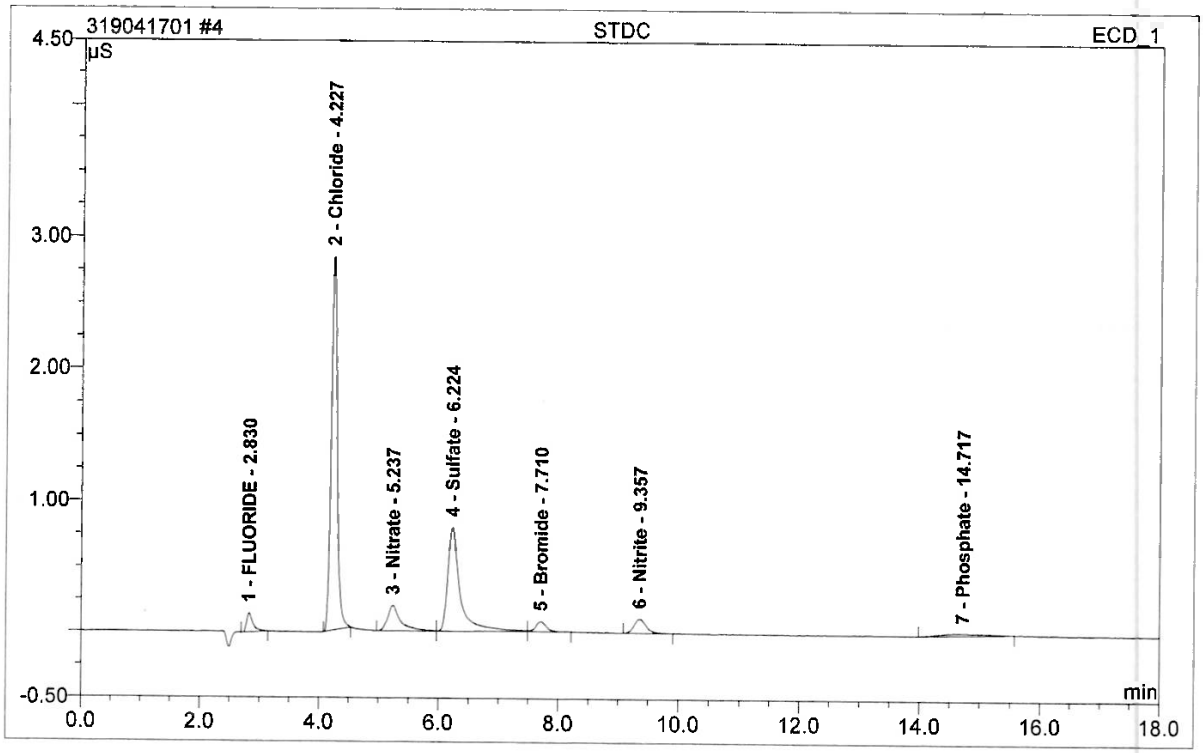
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

4 STDC

Sample Name:	**STDC**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/16/2019 11:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



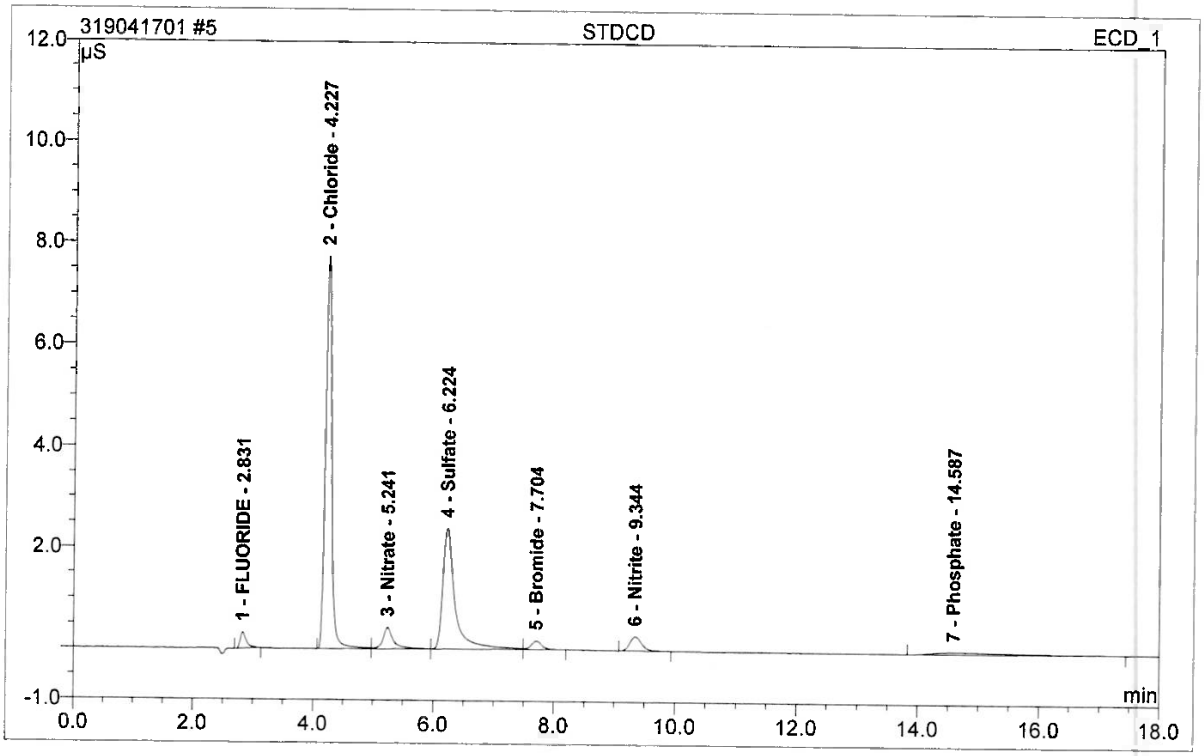
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.145	0.018	2.69	0.084	BMB
2	4.23	Chloride	2.840	0.335	51.51	1.523	BMB
3	5.24	Nitrate	0.194	0.048	7.45	0.200	BM
4	6.22	Sulfate	0.794	0.192	29.57	1.848	M
5	7.71	Bromide	0.078	0.017	2.57	0.352	MB
6	9.36	Nitrite	0.109	0.025	3.92	0.247	BMB
7	14.72	Phosphate	0.017	0.015	2.28	n.a.	BMB
Total:			4.176	0.650	100.00	4.254	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

5 STDCD

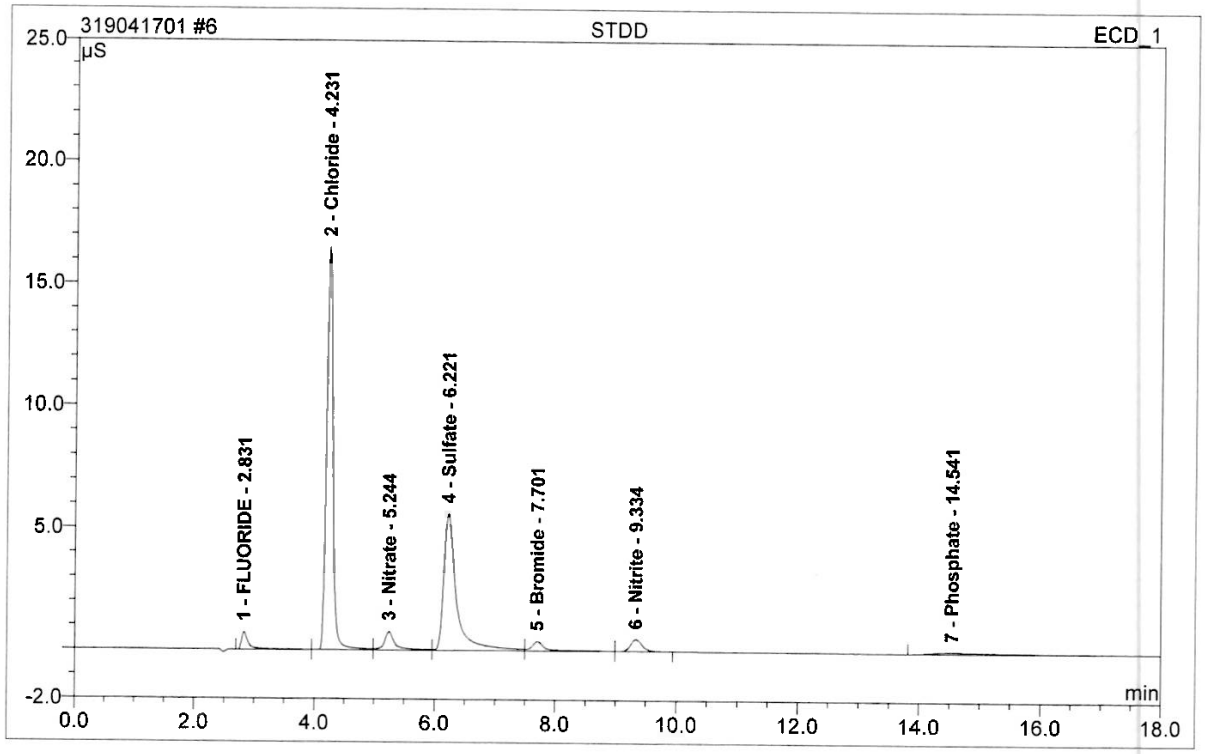
Sample Name:	**STDCD**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/16/2019 11:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.321	0.037	2.05	0.152	BMB
2	4.23	Chloride	7.737	0.949	52.26	4.552	BM
3	5.24	Nitrate	0.427	0.089	4.93	0.288	M
4	6.22	Sulfate	2.395	0.568	31.27	4.316	M
5	7.70	Bromide	0.170	0.036	1.98	0.538	MB
6	9.34	Nitrite	0.281	0.065	3.60	0.331	BMB
7	14.59	Phosphate	0.044	0.064	3.51	n.a.	BMB
8	18.39	n.a.	0.073	0.007	0.41	n.a.	BMB
Total:			11.448	1.816	100.00	10.178	

6 STDD

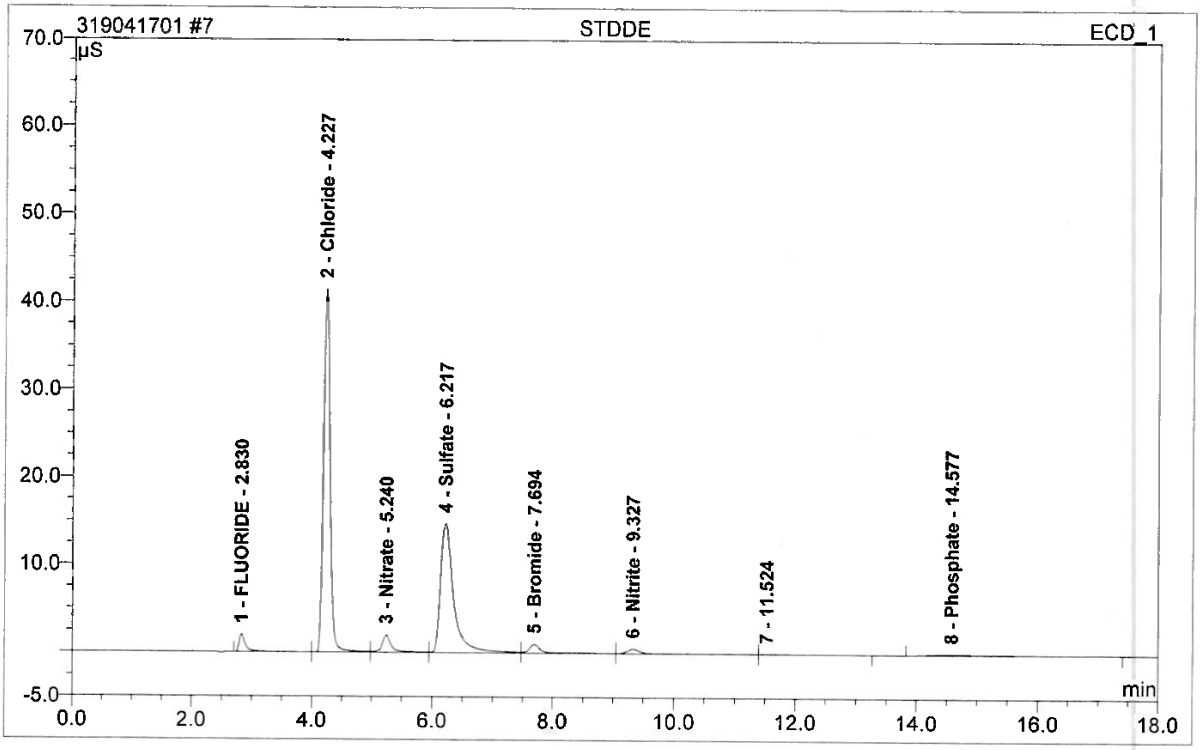
Sample Name:	**STDD**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/16/2019 12:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.711	0.101	2.52	0.372	BM
2	4.23	Chloride	16.489	2.046	51.18	9.964	M
3	5.24	Nitrate	0.755	0.157	3.92	0.433	M
4	6.22	Sulfate	5.608	1.377	34.45	9.639	M
5	7.70	Bromide	0.375	0.103	2.58	1.191	M
6	9.33	Nitrite	0.480	0.111	2.78	0.427	MB
7	14.54	Phosphate	0.065	0.101	2.52	n.a.	BM
8	18.32	n.a.	0.005	0.002	0.04	n.a.	MB
Total:			24.489	3.998	100.00	22.025	

7 STDDE

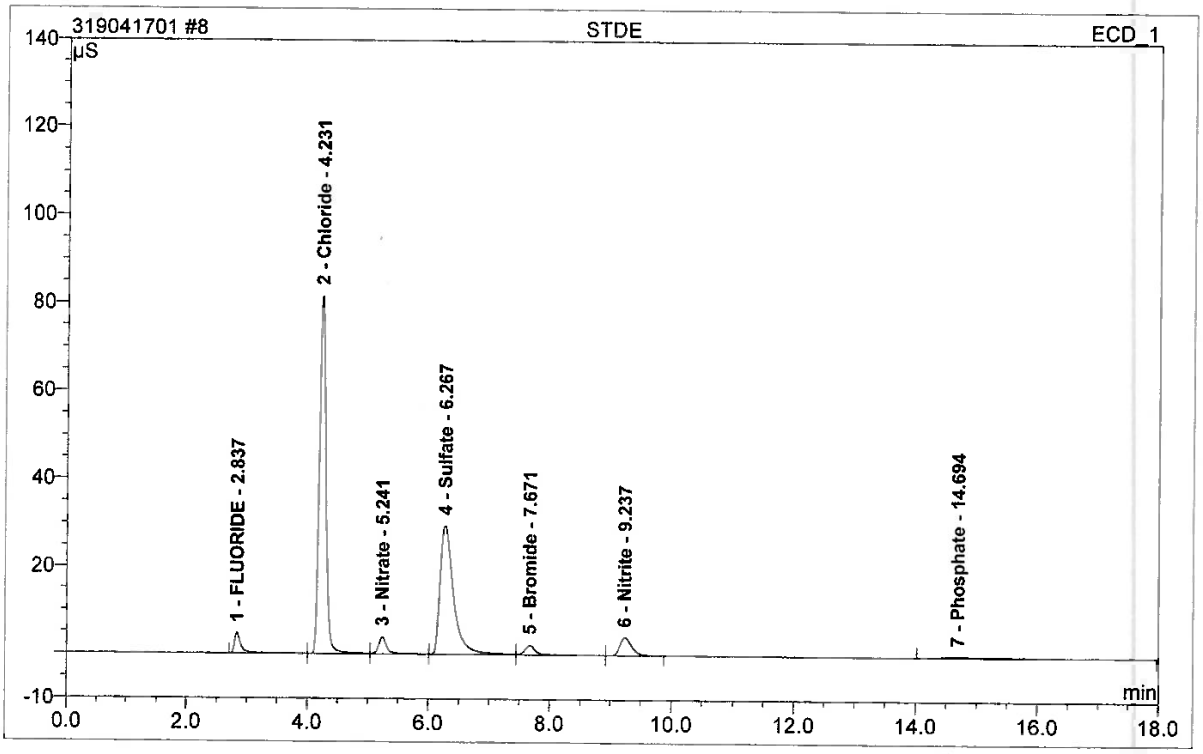
Sample Name:	**STDDE**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/16/2019 12:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	2.008	0.266	2.60	0.942	BM
2	4.23	Chloride	41.404	5.262	51.57	25.823	M
3	5.24	Nitrate	1.961	0.370	3.62	0.889	M
4	6.22	Sulfate	14.750	3.740	36.65	25.168	M
5	7.69	Bromide	0.989	0.267	2.61	2.774	M
6	9.33	Nitrite	0.519	0.168	1.64	0.546	M
7	11.52	n.a.	0.013	0.013	0.13	n.a.	MB
8	14.58	Phosphate	0.090	0.120	1.18	n.a.	BMB
Total:			61.734	10.204	100.00	56.142	

8 STDE

Sample Name:	**STDE**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/16/2019 12:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



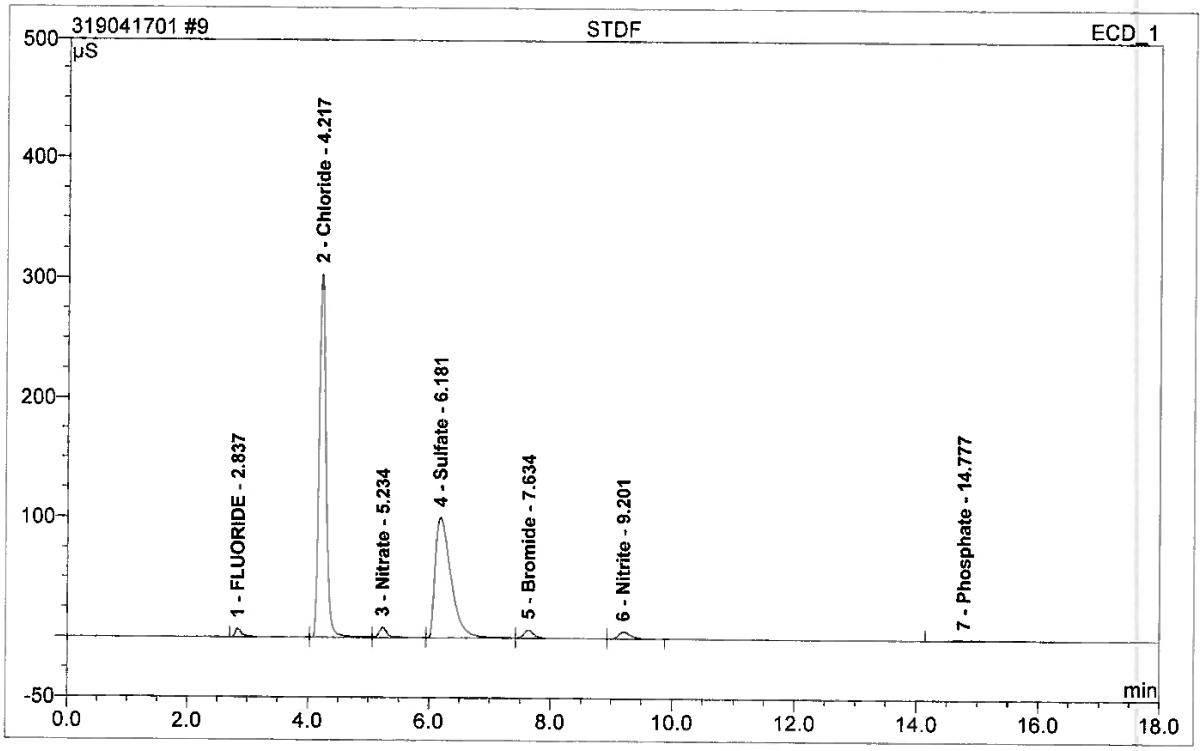
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	4.572	0.589	2.84	2.059	BM
2	4.23	Chloride	81.579	10.388	50.07	51.104	M
3	5.24	Nitrate	3.816	0.616	2.97	1.418	M
4	6.27	Sulfate	29.524	7.536	36.32	50.120	M
5	7.67	Bromide	2.097	0.436	2.10	4.413	M
6	9.24	Nitrite	3.962	0.897	4.32	2.082	MB
7	14.69	Phosphate	0.229	0.285	1.38	n.a.	BMB
Total:			125.780	20.747	100.00	111.197	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

9 STDF

Sample Name:	**STDF**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/16/2019 13:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



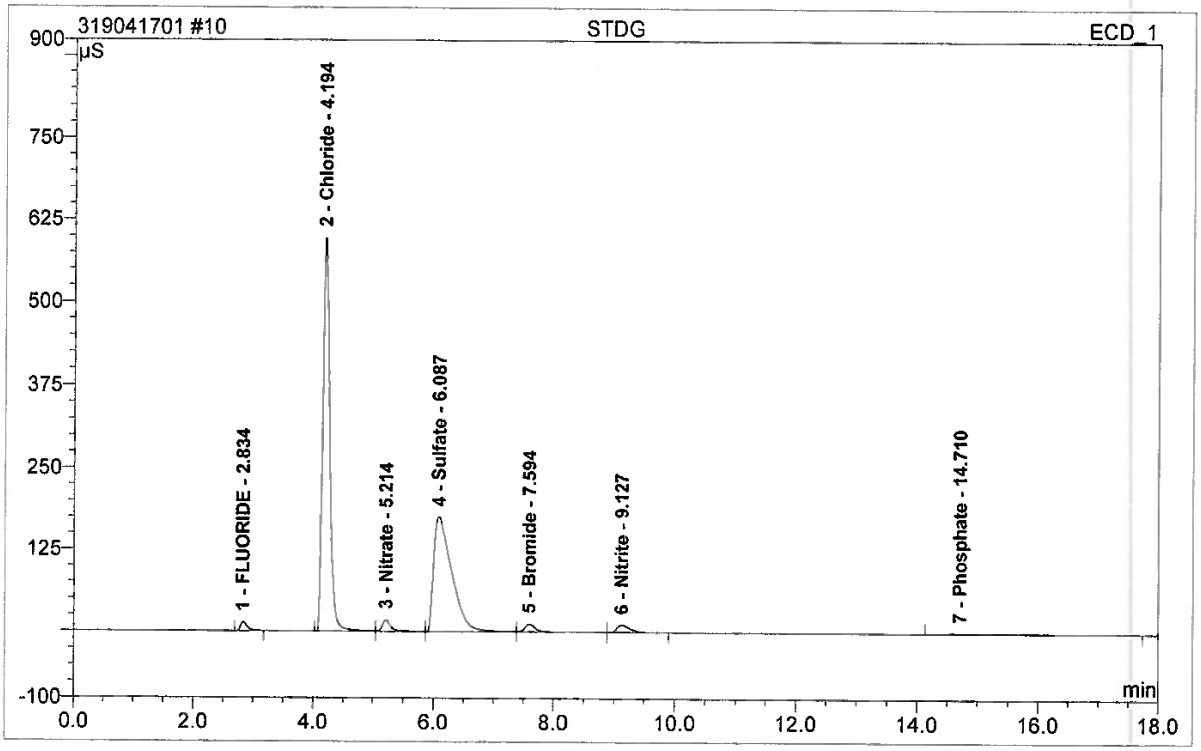
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	6.887	0.915	1.20	3.188	BM
2	4.22	Chloride	303.291	40.393	52.98	199.088	M
3	5.23	Nitrate	8.346	1.363	1.79	3.020	M
4	6.18	Sulfate	100.420	30.302	39.75	199.768	M
5	7.63	Bromide	6.892	1.466	1.92	14.396	M
6	9.20	Nitrite	5.775	1.359	1.78	3.056	MB
7	14.78	Phosphate	0.373	0.439	0.58	n.a.	BMB
Total:			431.984	76.237	100.00	422.516	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

10 STDG

Sample Name:	**STDG**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/16/2019 13:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

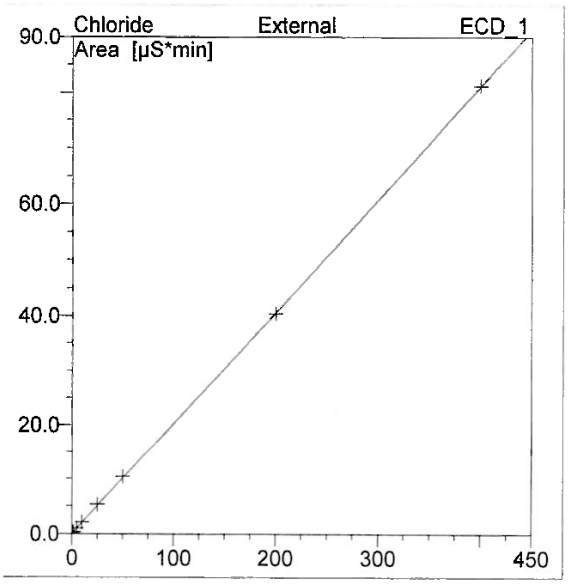


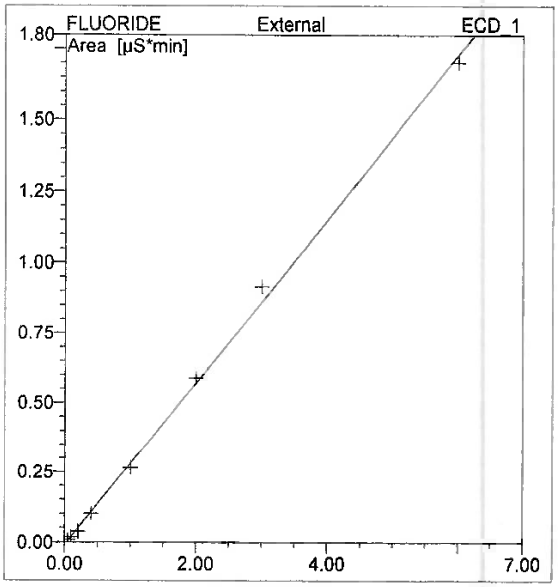
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	13.229	1.699	1.11	5.900	BMB
2	4.19	Chloride	597.285	81.186	53.16	400.276	BM
3	5.21	Nitrate	17.008	2.843	1.86	6.195	M
4	6.09	Sulfate	175.735	60.779	39.80	400.108	M
5	7.59	Bromide	11.904	2.606	1.71	25.442	M
6	9.13	Nitrite	10.949	2.763	1.81	6.012	MB
7	14.71	Phosphate	0.833	0.849	0.56	n.a.	BMB
Total:			826.943	152.725	100.00	843.932	

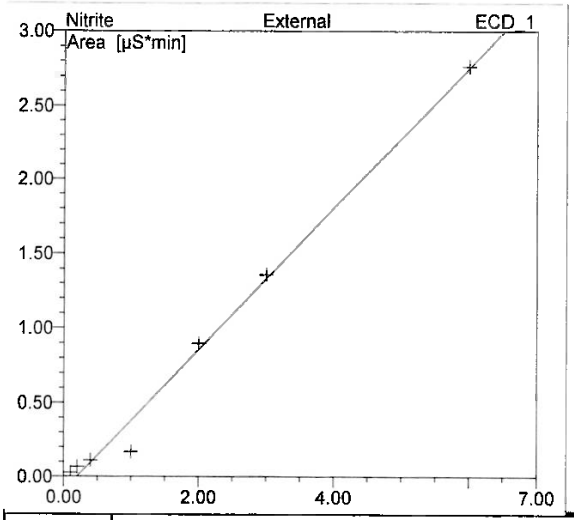
anionssystem3/Integration

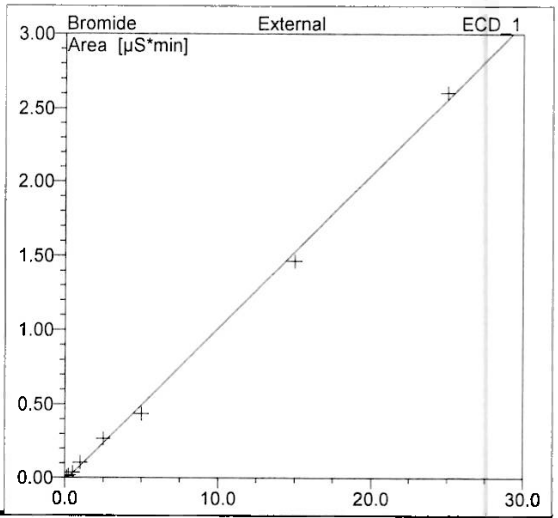
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701





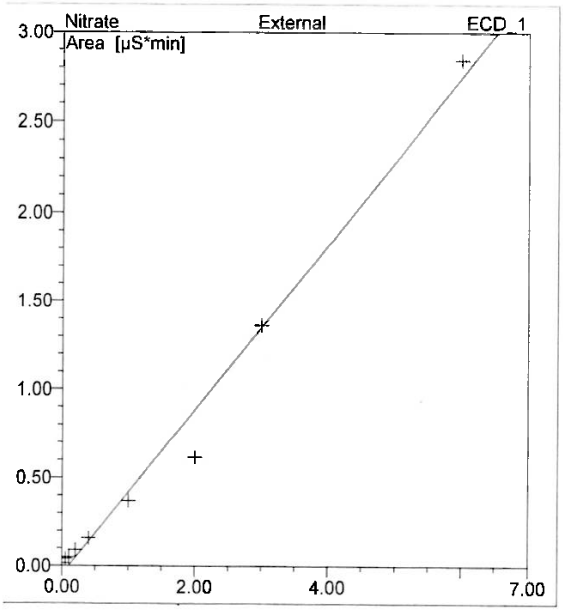


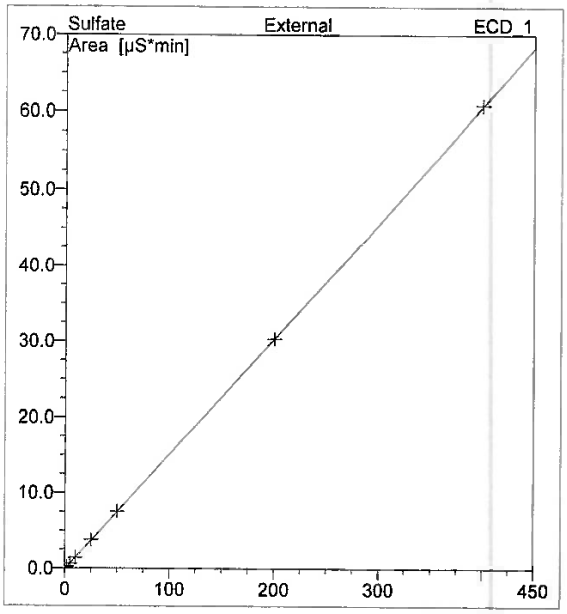


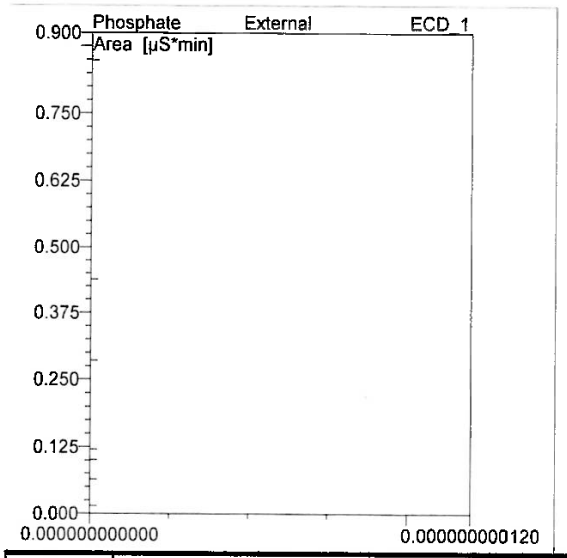
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.83	FLUORIDE	LOff	8	99.9074	-0.0069	0.2892	0.0000
2	4.19	Chloride	LOff	9	99.9989	0.0260	0.2028	0.0000
3	5.21	Nitrate	LOff	9	99.3210	-0.0450	0.4662	0.0000
4	6.09	Sulfate	LOff	9	99.9996	-0.0889	0.1521	0.0000
5	7.59	Bromide	LOff	8	99.9094	-0.0196	0.1032	0.0000
6	9.13	Nitrite	LOff	7	99.5333	-0.0917	0.4749	0.0000
7	14.71	Phosphate	LOff	7	n.a.	0.0000	0.0000	0.0000
Average:					99.7783	-0.0323	0.2412	0.0000

anionssystem3/Calibration(Curr.Peak)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701







No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.83	FLUORIDE	LOff	8	99.9074	-0.0069	0.2892	0.0000
2	4.19	Chloride	LOff	9	99.9989	0.0260	0.2028	0.0000
3	5.21	Nitrate	LOff	9	99.3210	-0.0450	0.4662	0.0000
4	6.09	Sulfate	LOff	9	99.9996	-0.0889	0.1521	0.0000
5	7.59	Bromide	LOff	8	99.9094	-0.0196	0.1032	0.0000
6	9.13	Nitrite	LOff	7	99.5333	-0.0917	0.4749	0.0000
7	14.71	Phosphate	LOff	7	n.a.	0.0000	0.0000	0.0000
Average:					99.7783	-0.0323	0.2412	0.0000

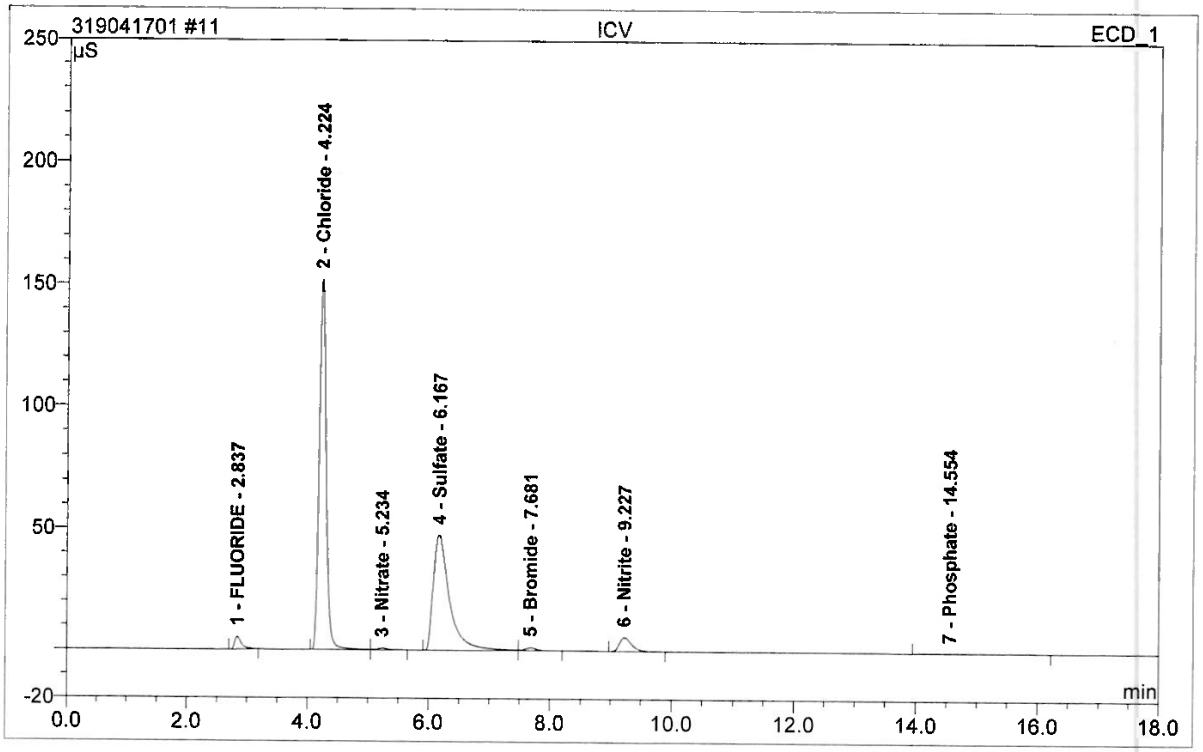
anionssystem3/Calibration(Curr.Peak)

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

11 ICV

Sample Name:	**ICV**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 9:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	5.179	0.676	1.79	2.361	BMB
2	4.22	Chloride	151.830	20.617	54.70	101.554	BM
3	5.23	Nitrate	0.776	0.147	0.39	0.411	MB
4	6.17	Sulfate	47.459	14.615	38.78	96.652	BM
5	7.68	Bromide	1.215	0.264	0.70	2.749	MB
6	9.23	Nitrite	5.648	1.331	3.53	2.996	BMB
7	14.55	Phosphate	0.034	0.036	0.10	n.a.	BMB
8	18.50	n.a.	0.014	0.003	0.01	n.a.	BMB
Total:			212.155	37.689	100.00	206.724	

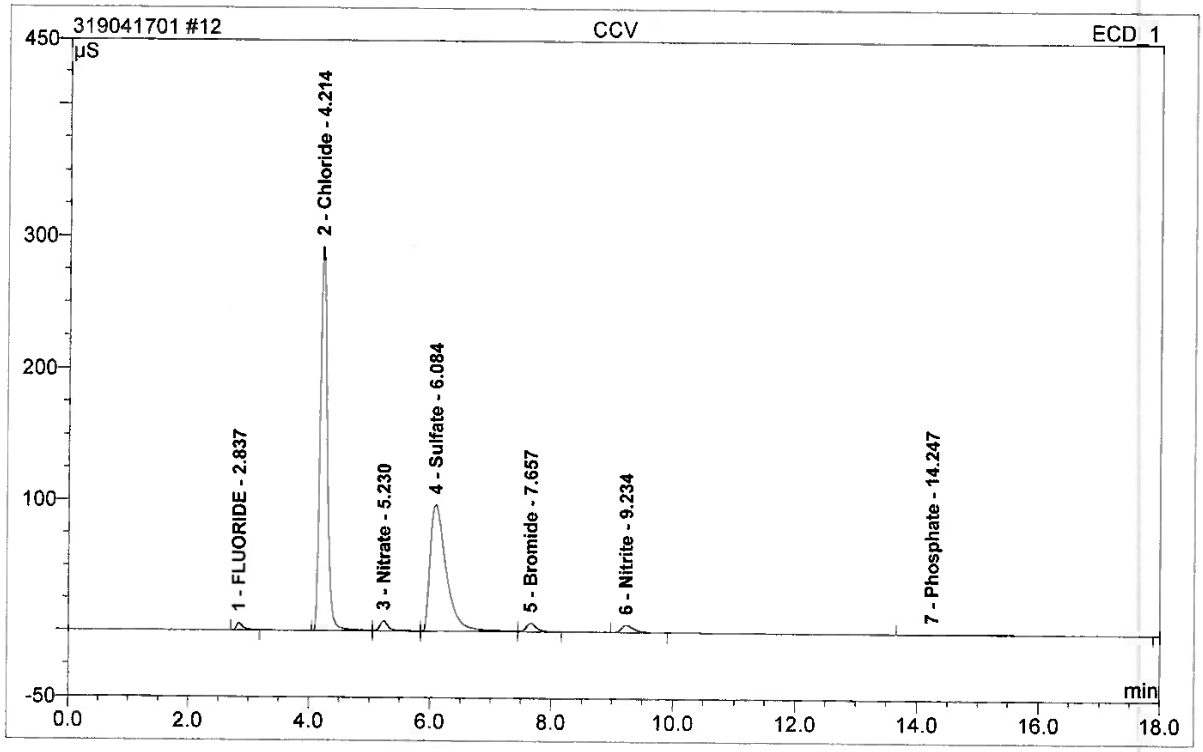
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

12 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 10:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	5.715	0.734	0.98	2.561	BMB
2	4.21	Chloride	292.290	40.309	53.74	198.675	BM
3	5.23	Nitrate	7.634	1.266	1.69	2.812	M
4	6.08	Sulfate	97.069	29.830	39.77	196.670	M
5	7.66	Bromide	6.398	1.250	1.67	12.303	MB
6	9.23	Nitrite	5.451	1.287	1.72	2.903	BMB
7	14.25	Phosphate	0.261	0.325	0.43	n.a.	BMB
8	19.23	n.a.	0.003	0.001	0.00	n.a.	BMB
9	19.94	n.a.	0.016	0.002	0.00	n.a.	BMB
Total:			414.838	75.005	100.00	415.925	

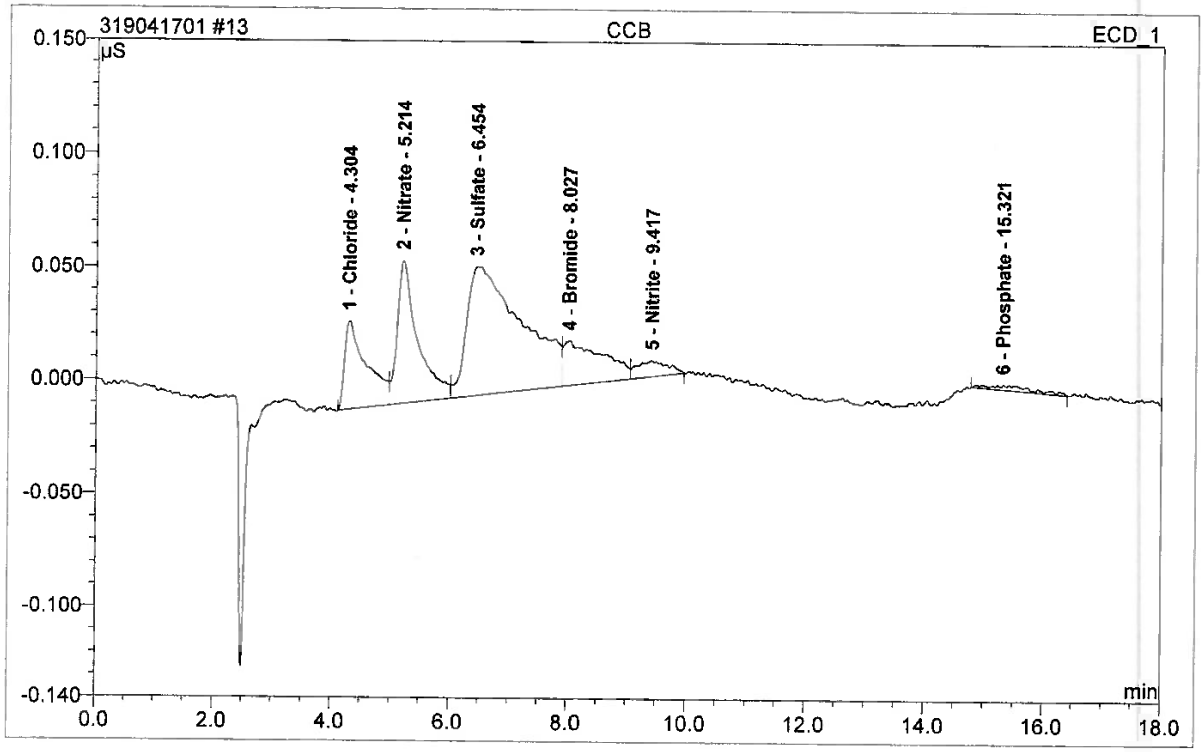
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

13 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 10:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.30	Chloride	0.039	0.017	13.53	-0.046	BM
2	5.21	Nitrate	0.063	0.025	20.37	0.150	M
3	6.45	Sulfate	0.057	0.061	49.34	0.985	M
4	8.03	Bromide	0.019	0.015	11.78	0.331	M
5	9.42	Nitrite	0.007	0.004	3.36	0.202	MB
6	15.32	Phosphate	0.002	0.002	1.62	n.a.	BMB
Total:			0.187	0.123	100.00	1.622	

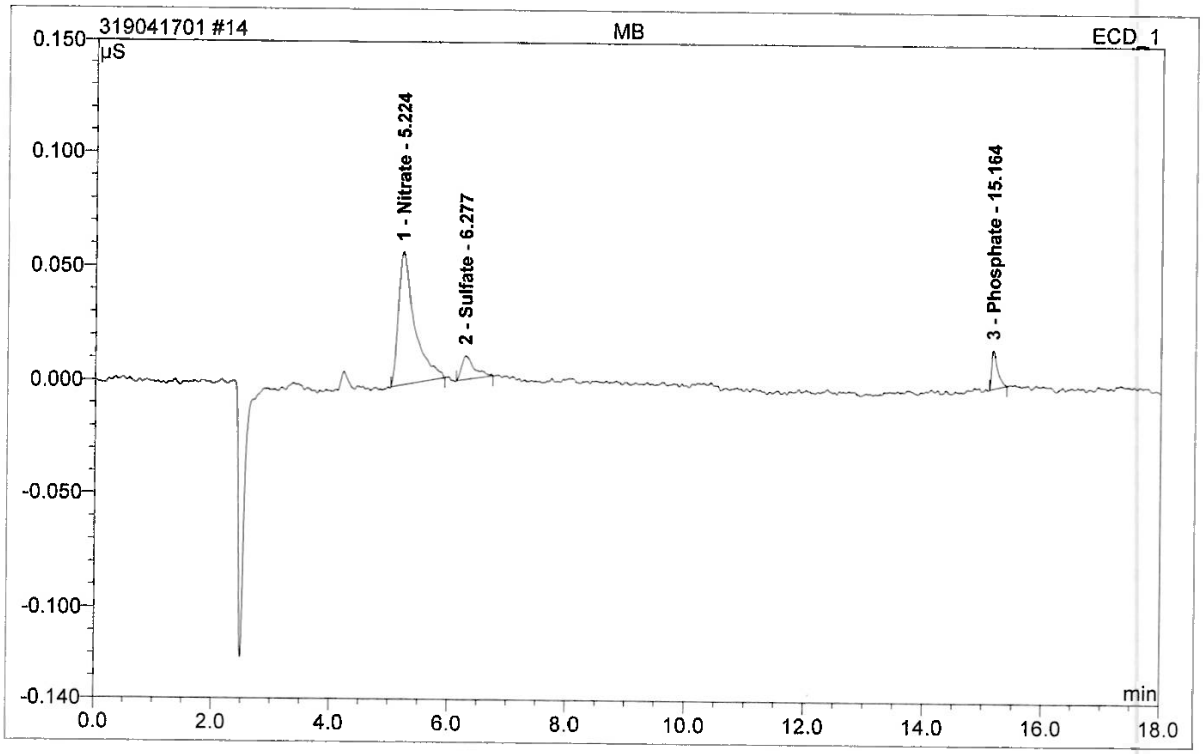
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

14 MB

Sample Name:	**MB**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 11:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



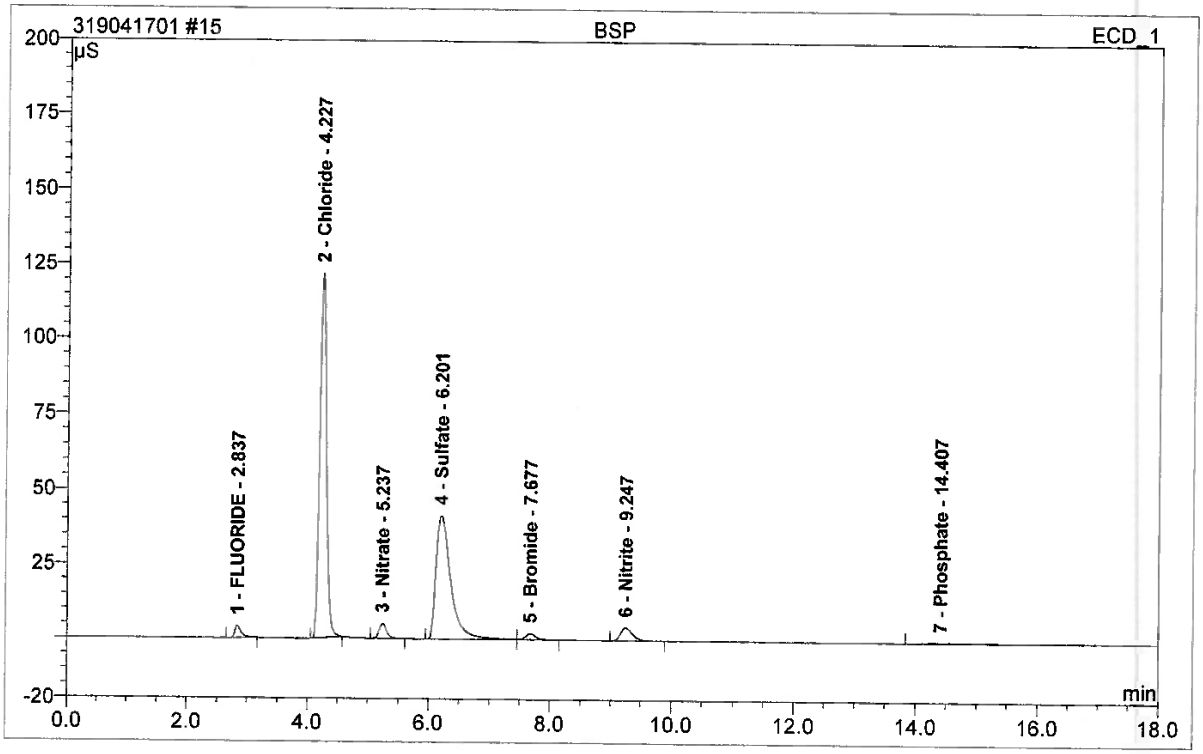
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	5.22	Nitrate	0.058	0.018	80.36	0.136	BMB
2	6.28	Sulfate	0.010	0.003	11.25	0.601	BMB
3	15.16	Phosphate	0.017	0.002	8.39	n.a.	BMB
Total:			0.085	0.023	100.00	0.737	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

15 BSP

Sample Name:	**BSP**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 11:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

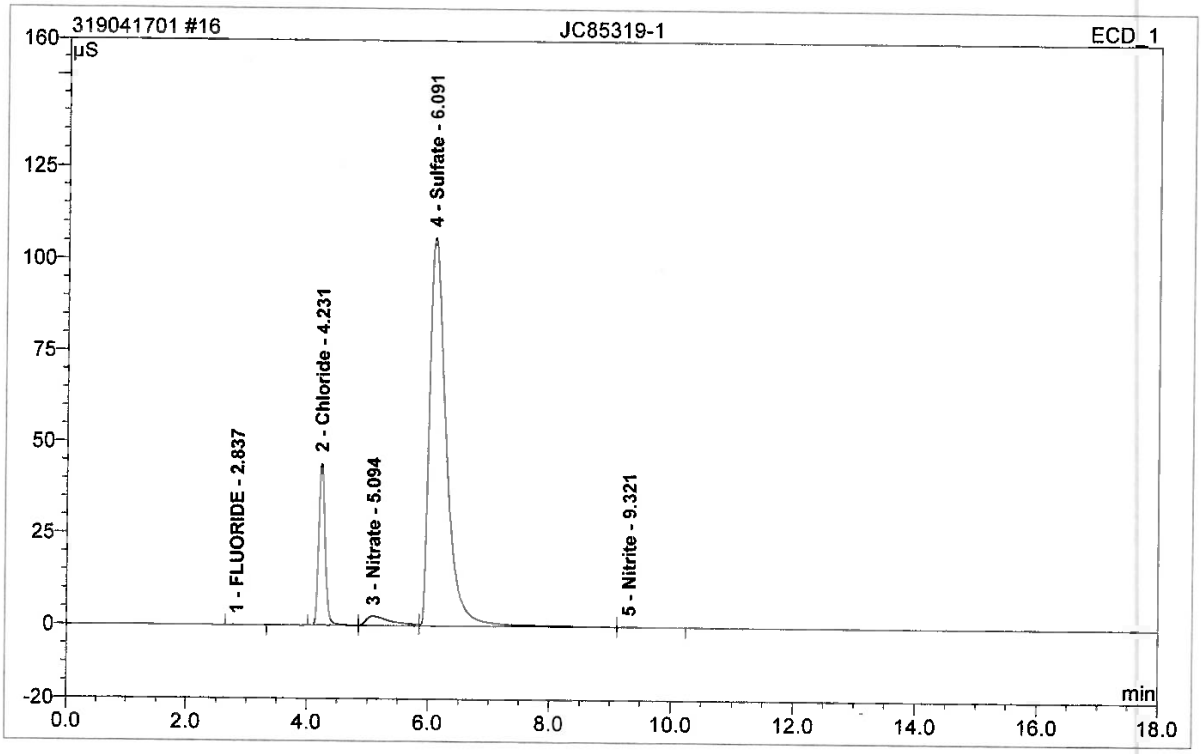


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	4.031	0.490	1.61	1.719	BMB
2	4.23	Chloride	121.778	15.899	52.32	78.284	BMB
3	5.24	Nitrate	4.960	0.709	2.33	1.617	BMB
4	6.20	Sulfate	41.621	11.695	38.48	77.458	BM
5	7.68	Bromide	2.013	0.390	1.28	3.968	MB
6	9.25	Nitrite	4.307	0.987	3.25	2.271	BMB
7	14.41	Phosphate	0.167	0.221	0.73	n.a.	BMB
Total:			178.877	30.390	100.00	165.317	

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

16 JC85319-1

Sample Name:	**JC85319-1**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**2.0000**
Recording Time:	**4/17/2019 11:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	0.051	0.010	0.02	0.117	BMB
2	4.23	Chloride	44.335	5.501	13.45	54.008	BM
3	5.09	Nitrate	2.521	1.233	3.02	5.484	M
4	6.09	Sulfate	106.139	34.093	83.37	449.377	M
5	9.32	Nitrite	0.148	0.056	0.14	0.623	MB
Total:			153.193	40.894	100.00	509.609	

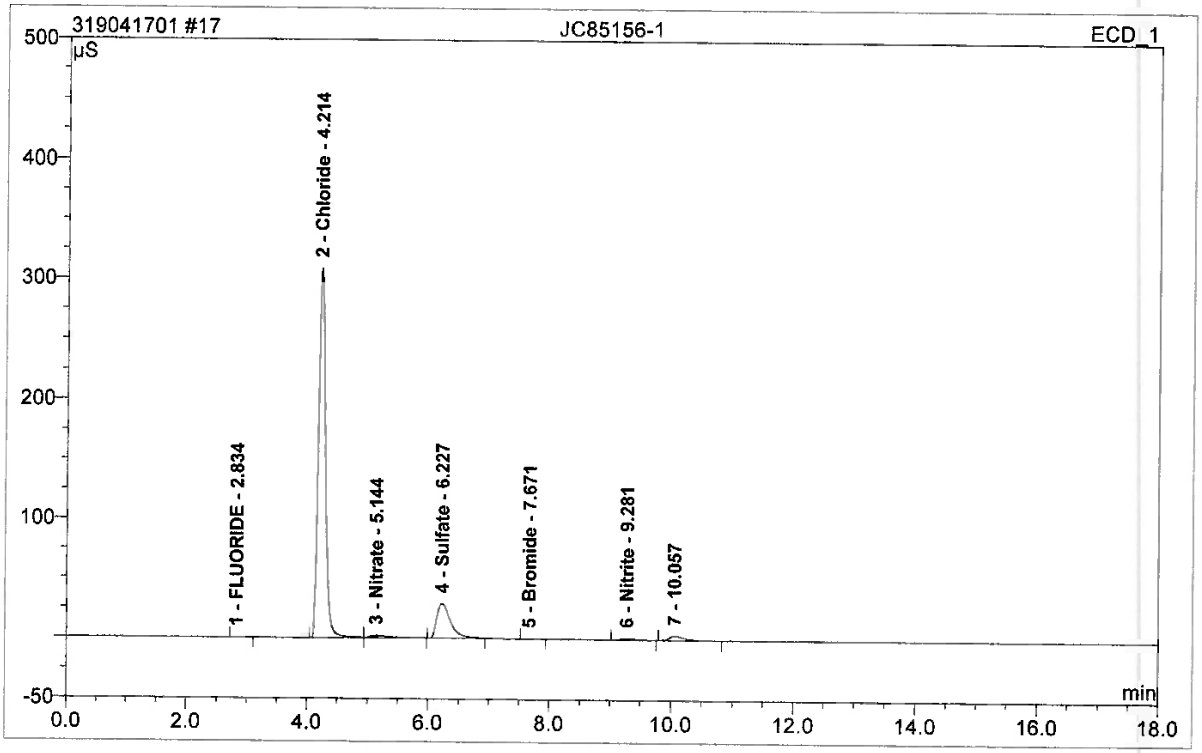
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

17 JC85156-1

Sample Name:	**JC85156-1**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**2.0000**
Recording Time:	**4/17/2019 12:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.059	0.009	0.02	0.108	BMB
2	4.21	Chloride	308.526	42.368	81.87	417.653	BM
3	5.14	Nitrate	1.832	0.754	1.46	3.427	MB
4	6.23	Sulfate	28.794	7.405	14.31	98.521	BMB
5	7.67	Bromide	0.042	0.008	0.01	0.529	BMB
6	9.28	Nitrite	1.216	0.265	0.51	1.503	BMB
7	10.06	n.a.	3.574	0.943	1.82	n.a.	BMB
Total:			344.044	51.751	100.00	521.740	

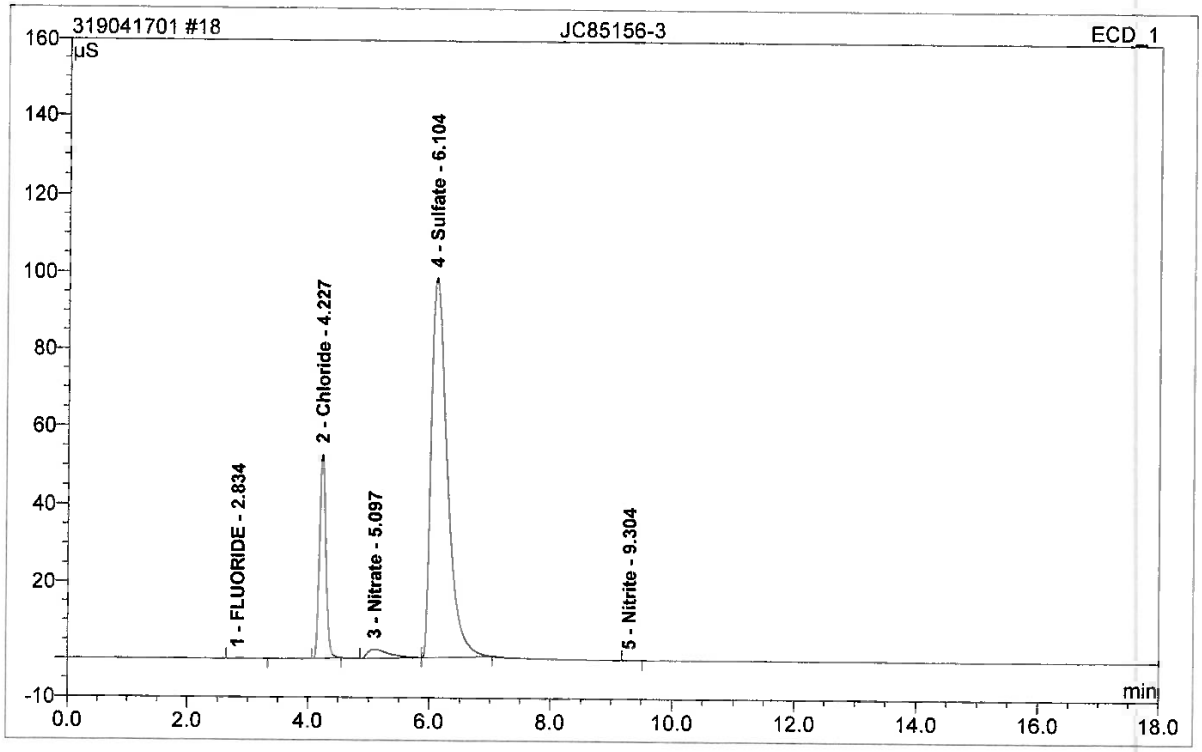
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

18 JC85156-3

Sample Name:	**JC85156-3**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**2.0000**
Recording Time:	**4/17/2019 12:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.071	0.014	0.04	0.148	BMB
2	4.23	Chloride	52.821	6.529	17.31	64.142	BMB
3	5.10	Nitrate	2.318	0.965	2.56	4.331	BMB
4	6.10	Sulfate	98.340	30.206	80.09	398.273	bMB
5	9.30	Nitrite	0.013	0.003	0.01	0.398	BMB
Total:			153.563	37.716	100.00	467.291	

anionssystem3/Integration

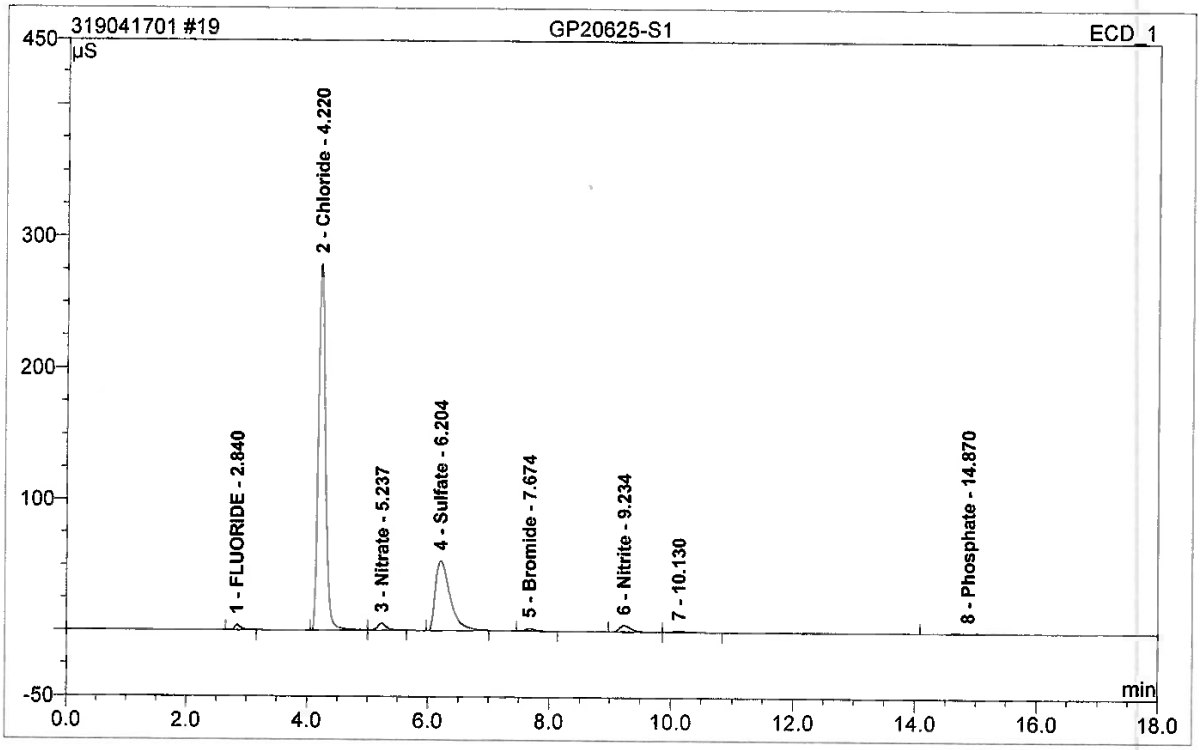
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

19 GP20625-S1

JC85156-5

Sample Name:	**GP20625-S1**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**5.0000**
Recording Time:	**4/17/2019 12:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	3.861	0.465	0.83	8.162	BMB
2	4.22	Chloride	279.018	38.145	67.77	940.013	BM
3	5.24	Nitrate	5.236	0.921	1.64	10.366	MB
4	6.20	Sulfate	53.292	14.846	26.38	490.853	BMB
5	7.67	Bromide	1.956	0.353	0.63	18.062	BMB
6	9.23	Nitrite	4.732	1.086	1.93	12.399	BM
7	10.13	n.a.	0.899	0.236	0.42	n.a.	MB
8	14.87	Phosphate	0.121	0.231	0.41	n.a.	BMB
Total:			349.115	56.285	100.00	1479.856	

anionssystem3/Integration

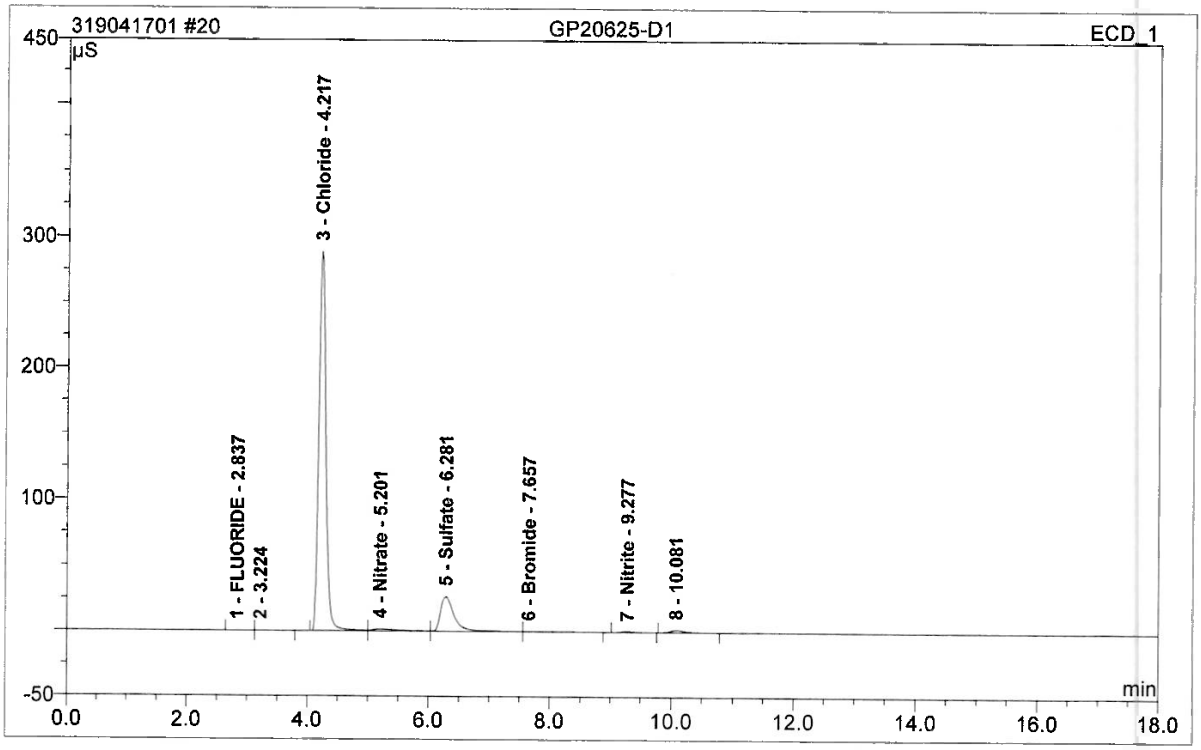
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

20 GP20625-D1

JC85156-5

Sample Name:	**GP20625-D1**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**3.0000**
Recording Time:	**4/17/2019 13:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	0.053	0.011	0.02	0.186	BM
2	3.22	n.a.	0.017	0.005	0.01	n.a.	MB
3	4.22	Chloride	288.825	39.491	82.57	583.912	BM
4	5.20	Nitrate	1.558	0.756	1.58	5.154	M
5	6.28	Sulfate	26.352	6.926	14.48	138.338	M
6	7.66	Bromide	0.165	0.084	0.18	3.011	MB
7	9.28	Nitrite	0.558	0.124	0.26	1.360	BMB
8	10.08	n.a.	1.693	0.431	0.90	n.a.	BMB
Total:			319.221	47.827	100.00	731.962	

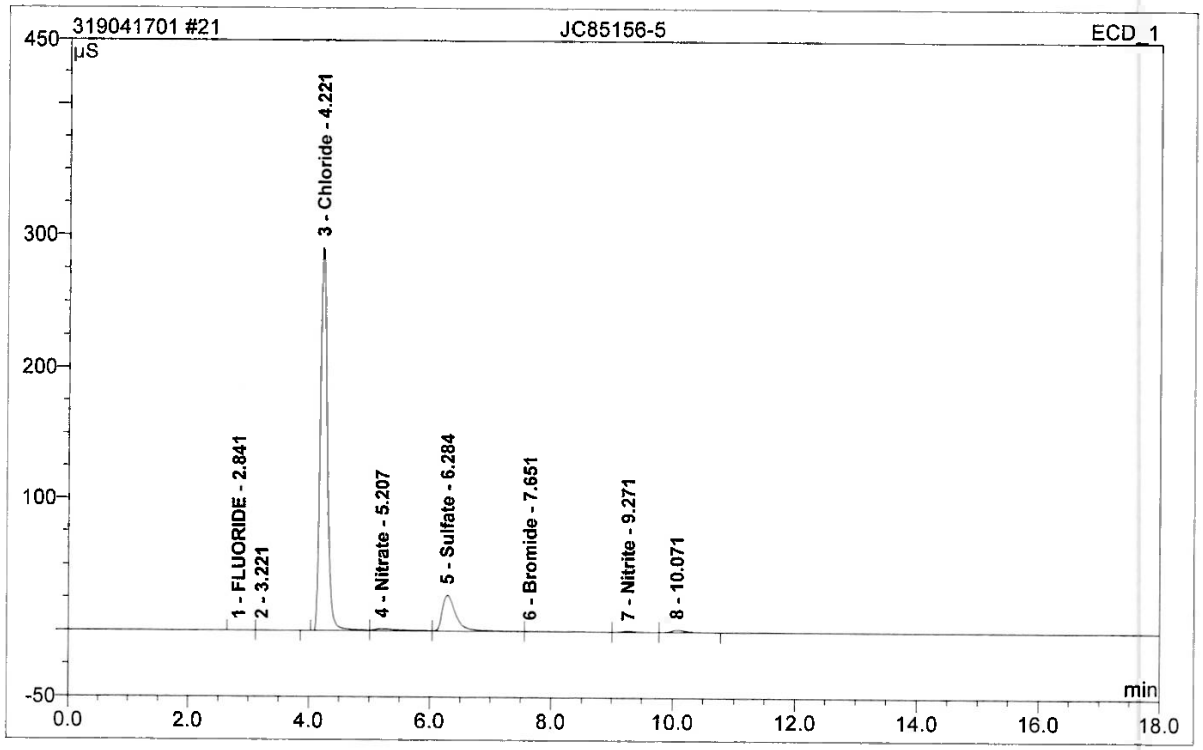
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

21 JC85156-5

Sample Name:	**JC85156-5**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**3.0000**
Recording Time:	**4/17/2019 13:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	0.052	0.011	0.02	0.182	BM
2	3.22	n.a.	0.015	0.005	0.01	n.a.	MB
3	4.22	Chloride	290.745	39.736	82.15	587.545	BM
4	5.21	Nitrate	1.593	0.789	1.63	5.365	M
5	6.28	Sulfate	26.918	7.089	14.65	141.548	M
6	7.65	Bromide	0.201	0.149	0.31	4.887	M
7	9.27	Nitrite	0.605	0.149	0.31	1.523	M
8	10.07	n.a.	1.739	0.446	0.92	n.a.	MB
Total:			321.868	48.373	100.00	741.049	

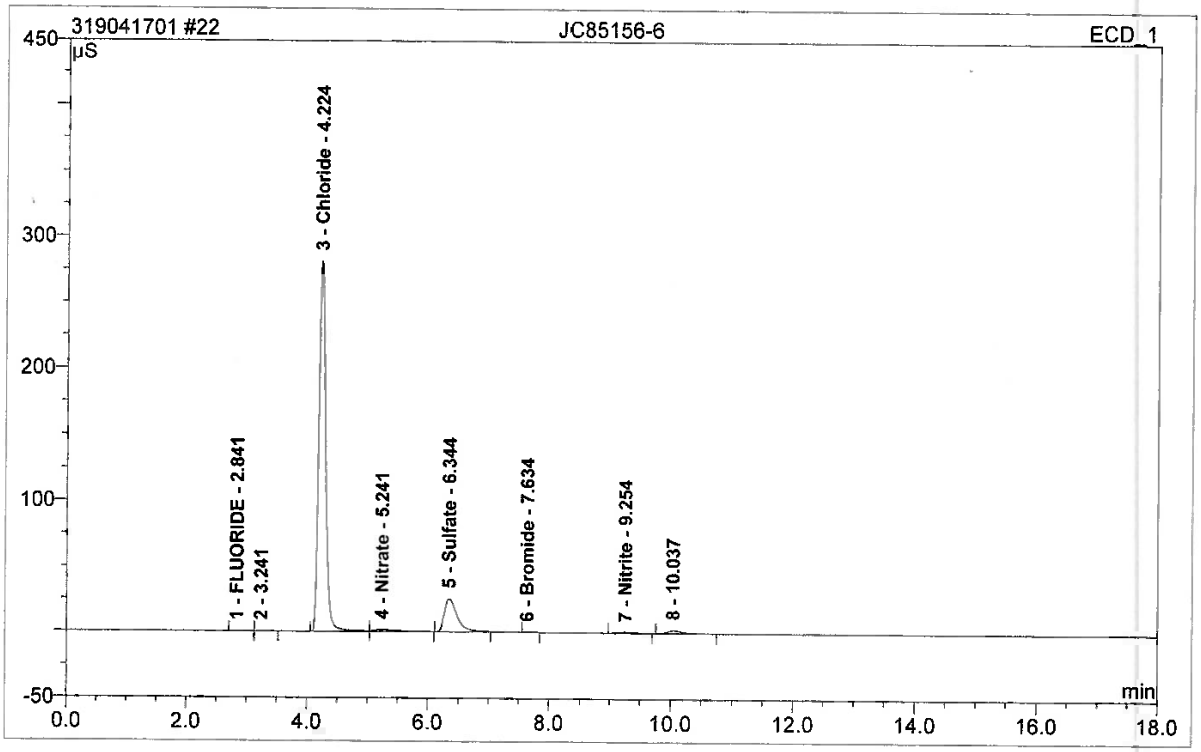
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

22 JC85156-6

Sample Name:	**JC85156-6**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**3.0000**
Recording Time:	**4/17/2019 14:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	0.056	0.010	0.02	0.172	BM
2	3.24	n.a.	0.013	0.003	0.01	n.a.	MB
3	4.22	Chloride	281.237	37.560	83.48	555.344	BM
4	5.24	Nitrate	1.546	0.621	1.38	4.285	MB
5	6.34	Sulfate	25.054	6.088	13.53	121.803	BMB
6	7.63	Bromide	0.022	0.004	0.01	0.679	BMB
7	9.25	Nitrite	0.695	0.151	0.34	1.535	BMB
8	10.04	n.a.	2.216	0.558	1.24	n.a.	BMB
Total:			310.839	44.994	100.00	683.818	

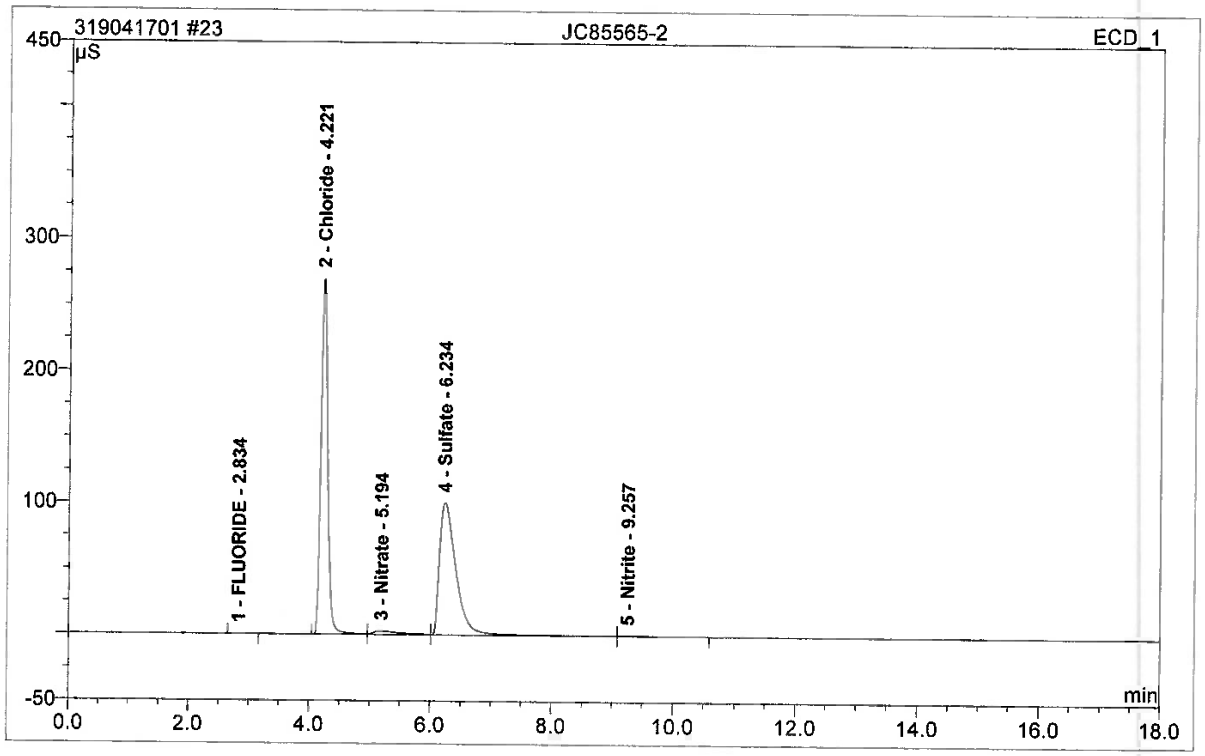
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

23 JC85565-2

Sample Name:	**JC85565-2**	*Injection Volume:*	**20.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**2.0000**
Recording Time:	**4/17/2019 14:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.216	0.027	0.04	0.236	BMB
2	4.22	Chloride	269.335	35.631	51.98	351.206	BM
3	5.19	Nitrate	2.583	1.318	1.92	5.848	M
4	6.23	Sulfate	100.543	31.505	45.96	415.349	M
5	9.26	Nitrite	0.117	0.066	0.10	0.663	MB
Total:			372.793	68.547	100.00	773.302	

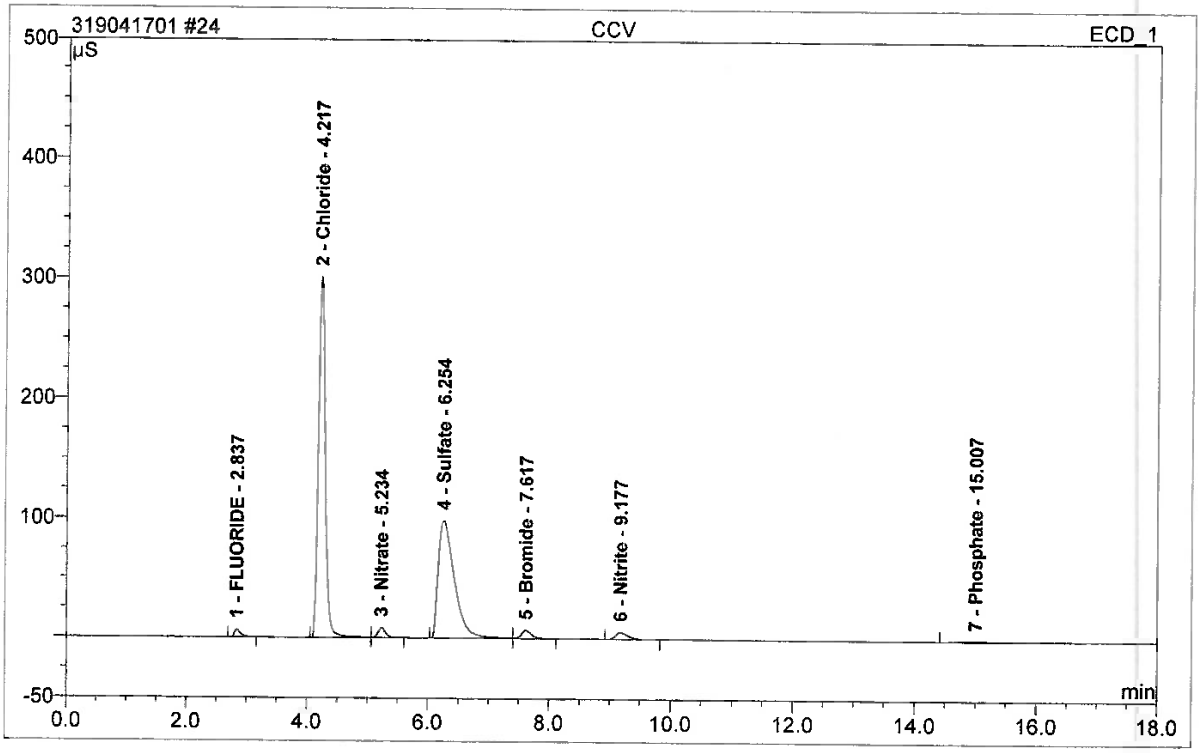
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

24 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 14:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	6.300	0.759	1.01	2.649	BMB
2	4.22	Chloride	300.926	40.170	53.54	197.990	BM
3	5.23	Nitrate	7.864	1.146	1.53	2.556	MB
4	6.25	Sulfate	98.680	30.051	40.05	198.123	BM
5	7.62	Bromide	6.593	1.267	1.69	12.473	MB
6	9.18	Nitrite	5.644	1.295	1.73	2.920	BMB
7	15.01	Phosphate	0.217	0.343	0.46	n.a.	BM
8	19.53	n.a.	0.009	0.002	0.00	n.a.	MB
Total:			426.233	75.035	100.00	416.709	

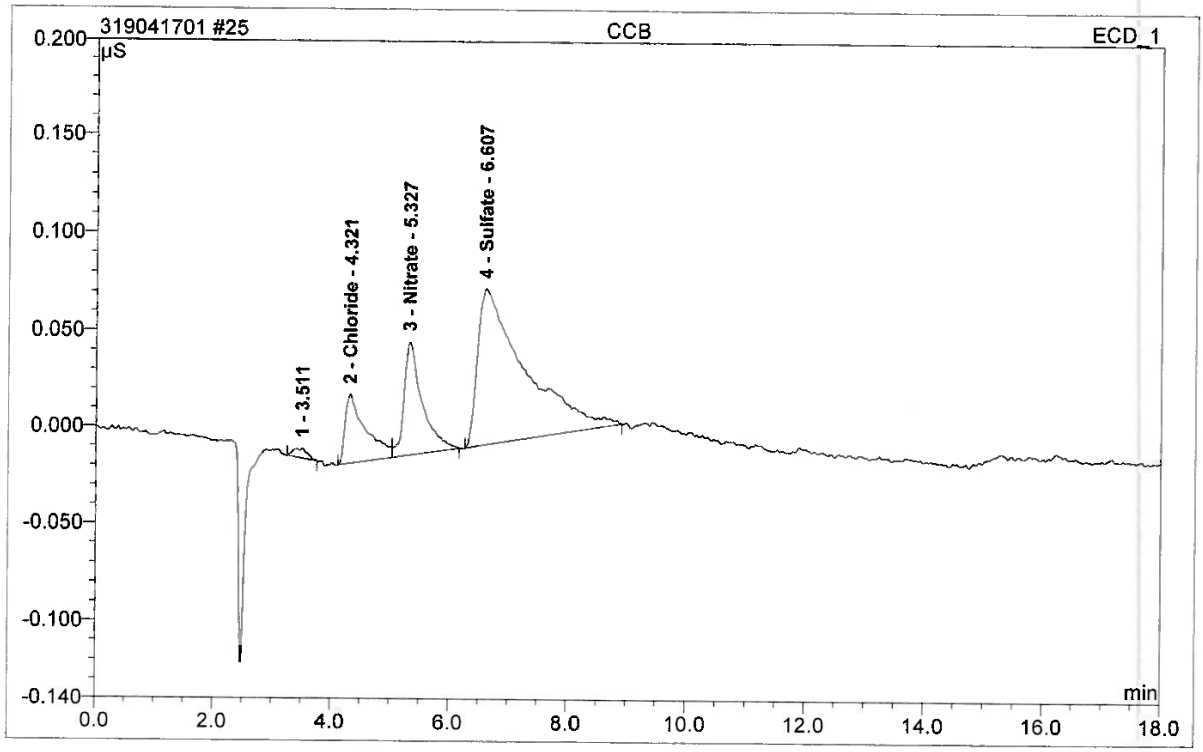
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

25 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 15:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



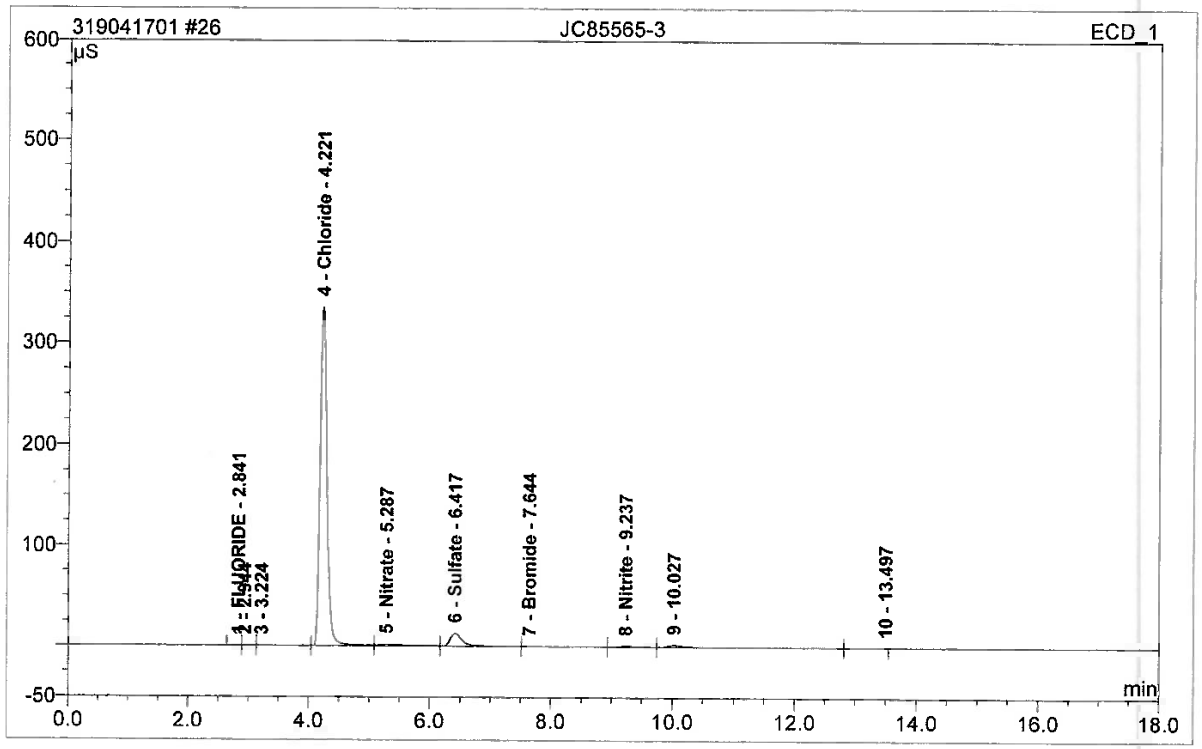
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.51	n.a.	0.005	0.001	1.19	n.a.	BMB
2	4.32	Chloride	0.036	0.014	12.93	-0.058	BM
3	5.33	Nitrate	0.059	0.021	18.90	0.141	MB
4	6.61	Sulfate	0.081	0.074	66.97	1.072	BMB
Total:			0.180	0.111	100.00	1.156	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

26 JC85565-3

Sample Name:	**JC85565-3**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**5.0000**
Recording Time:	**4/17/2019 15:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	0.040	0.004	0.01	0.191	BM
2	2.94	n.a.	0.040	0.006	0.01	n.a.	M
3	3.22	n.a.	0.017	0.007	0.01	n.a.	M
4	4.22	Chloride	335.738	45.078	90.35	1110.971	M
5	5.29	Nitrate	1.485	0.745	1.49	8.476	M
6	6.42	Sulfate	13.024	3.132	6.28	105.861	M
7	7.64	Bromide	0.180	0.146	0.29	8.024	M
8	9.24	Nitrite	0.822	0.210	0.42	3.179	M
9	10.03	n.a.	1.965	0.563	1.13	n.a.	M
10	13.50	n.a.	0.001	0.002	0.00	n.a.	MB
11	19.28	n.a.	0.003	0.001	0.00	n.a.	BMB

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

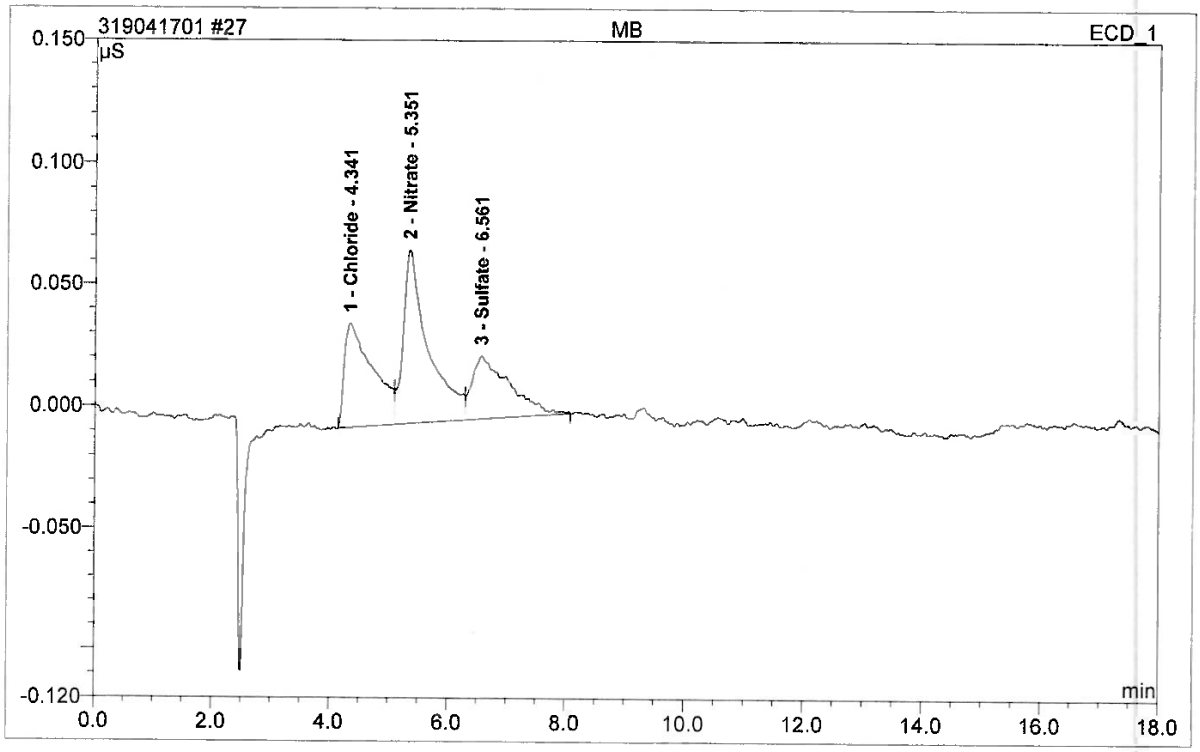
Total:	353.315	49.895	100.00	1236.702

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

27 MB

Sample Name:	**MB**	*Injection Volume:*	**20.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 16:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

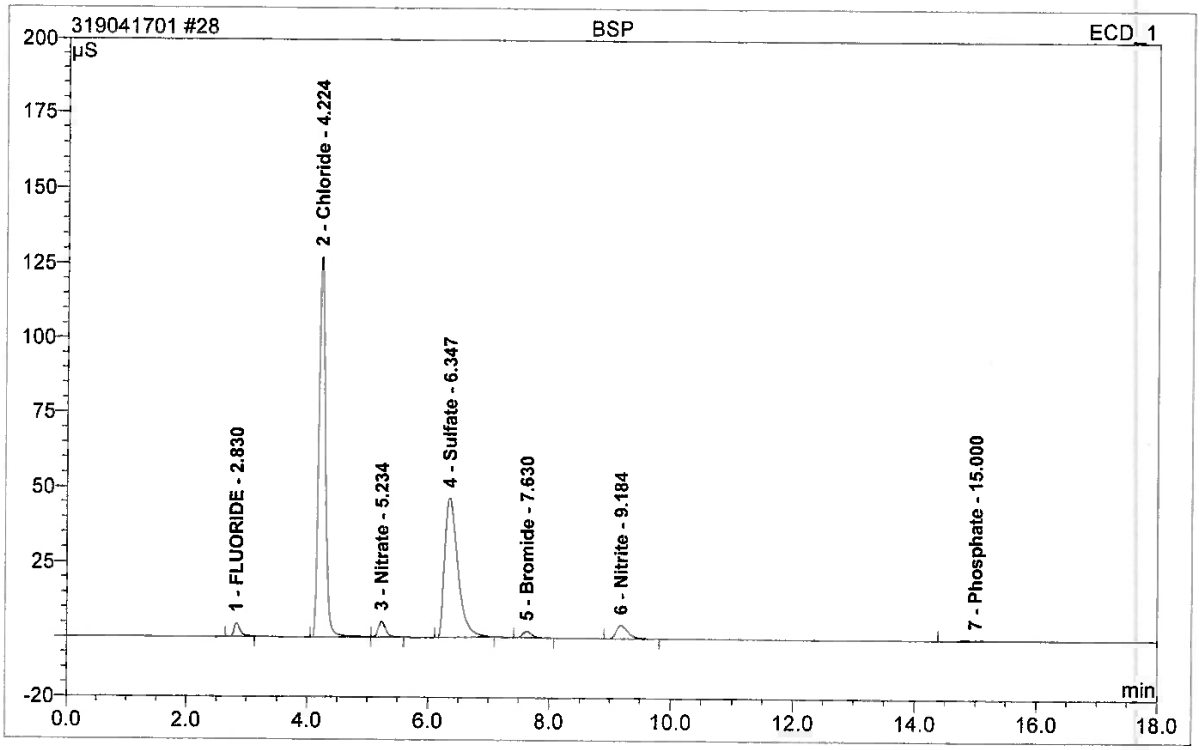


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	4.34	Chloride	0.042	0.024	30.83	-0.011	BM
2	5.35	Nitrate	0.071	0.035	44.94	0.171	M
3	6.56	Sulfate	0.026	0.019	24.23	0.707	MB
Total:			0.139	0.077	100.00	0.866	

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

28 BSP

Sample Name:	**BSP**	*Injection Volume:*	**20.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 16:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	4.532	0.521	1.69	1.825	BMB
2	4.22	Chloride	127.183	16.241	52.62	79.970	BM
3	5.23	Nitrate	5.266	0.745	2.41	1.695	MB
4	6.35	Sulfate	46.514	11.732	38.01	77.701	BMB
5	7.63	Bromide	1.999	0.353	1.14	3.610	BMB
6	9.18	Nitrite	4.448	0.998	3.23	2.295	BMB
7	15.00	Phosphate	0.206	0.275	0.89	n.a.	BMB
Total:			190.150	30.864	100.00	167.095	

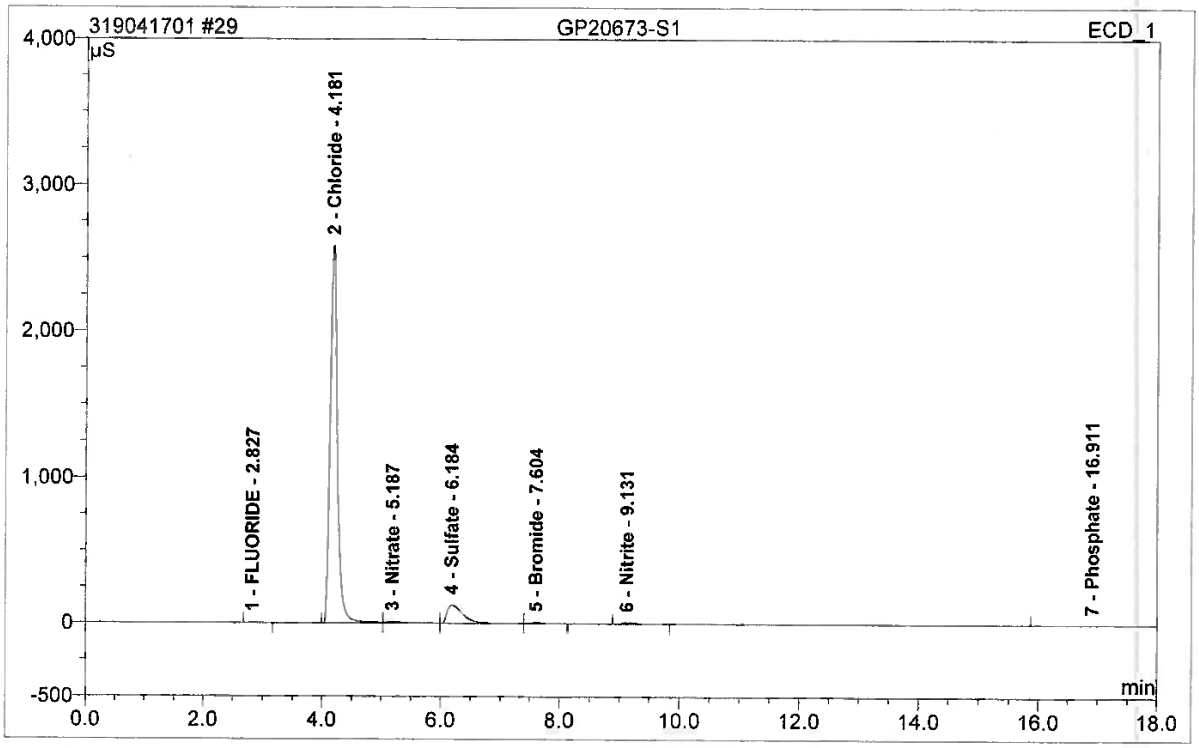
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

29 GP20673-S1

JC86327-1

Sample Name:	**GP20673-S1**	*Injection Volume:*	**20.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 16:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

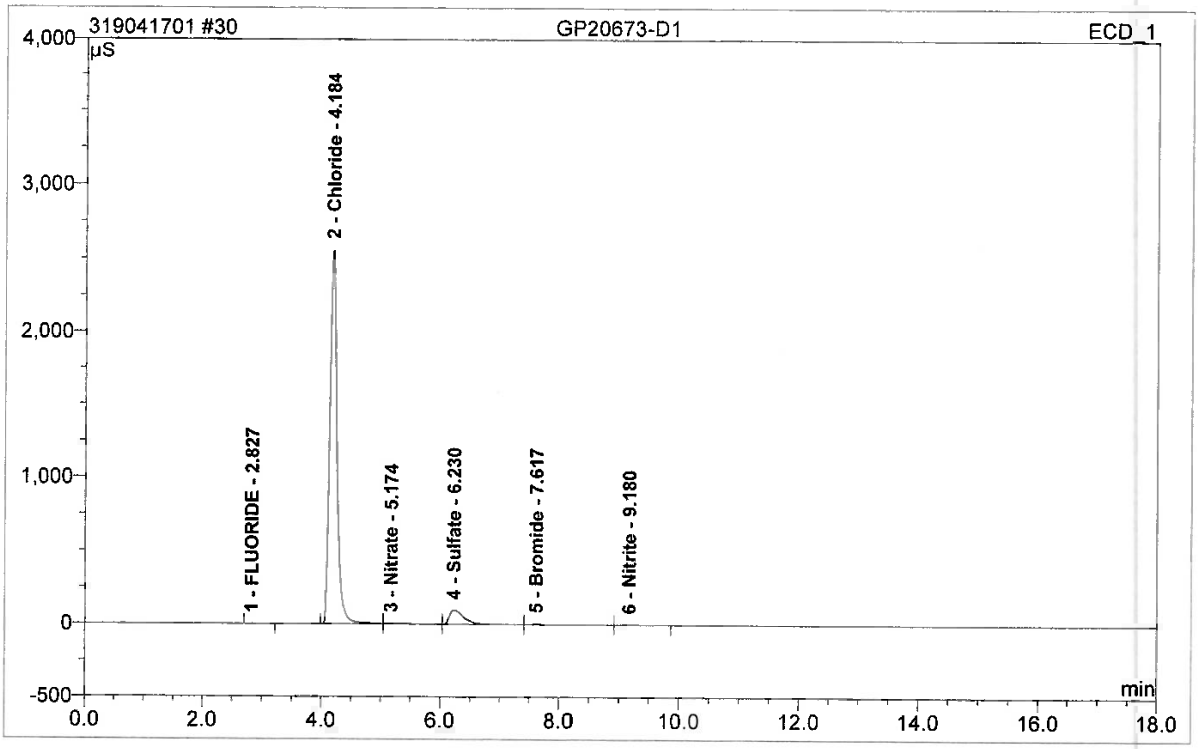


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	3.980	0.531	0.13	1.858	BMB
2	4.18	Chloride	2580.635	367.431	88.62	1812.019	BM
3	5.19	Nitrate	9.769	4.049	0.98	8.782	M
4	6.18	Sulfate	126.164	39.080	9.43	257.470	M
5	7.60	Bromide	6.764	1.386	0.33	13.618	MB
6	9.13	Nitrite	8.465	2.030	0.49	4.467	BMB
7	16.91	Phosphate	0.041	0.102	0.02	n.a.	BMB
Total:			2735.818	414.607	100.00	2098.214	

30 GP20673-D1

JC86327-1

Sample Name:	**GP20673-D1**	*Injection Volume:*	**20.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 17:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



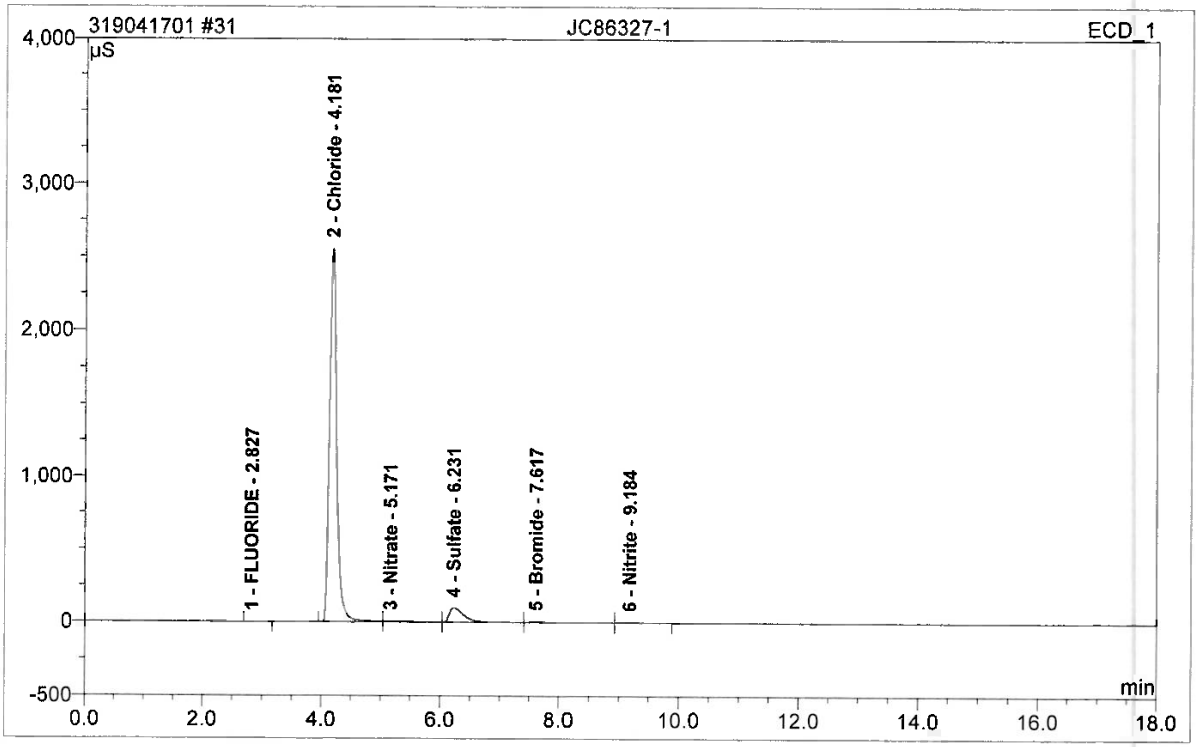
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.246	0.036	0.01	0.150	BMB
2	4.18	Chloride	2555.224	362.305	91.34	1786.738	BM
3	5.17	Nitrate	5.542	3.508	0.88	7.621	M
4	6.23	Sulfate	97.224	28.349	7.15	186.930	M
5	7.62	Bromide	4.890	1.439	0.36	14.132	M
6	9.18	Nitrite	4.186	0.999	0.25	2.297	MB
Total:			2667.312	396.635	100.00	1997.869	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

31 JC86327-1

Sample Name:	**JC86327-1**	*Injection Volume:*	**20.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 17:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

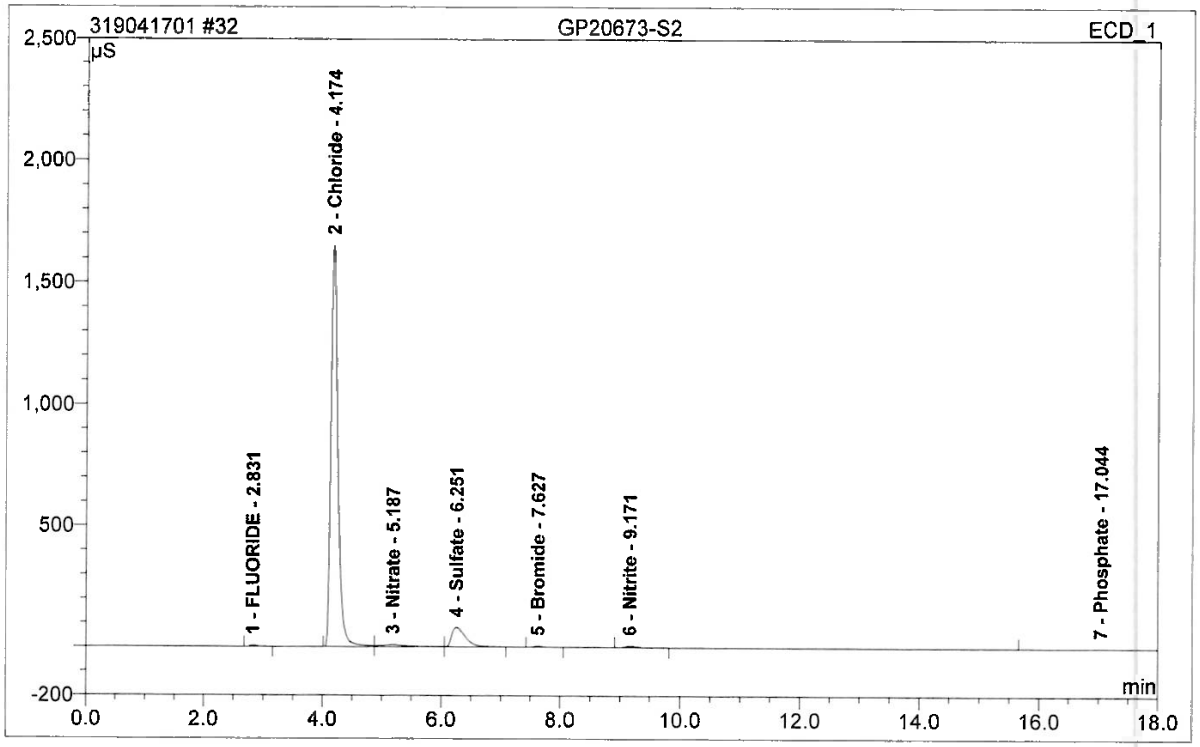


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.236	0.031	0.01	0.132	BMB
2	4.18	Chloride	2552.125	362.136	91.17	1785.905	BM
3	5.17	Nitrate	5.743	3.747	0.94	8.135	M
4	6.23	Sulfate	97.310	28.645	7.21	188.881	M
5	7.62	Bromide	5.066	1.603	0.40	15.730	M
6	9.18	Nitrite	4.242	1.035	0.26	2.372	MB
Total:			2664.722	397.198	100.00	2001.154	

32 GP20673-S2

JC86327-2

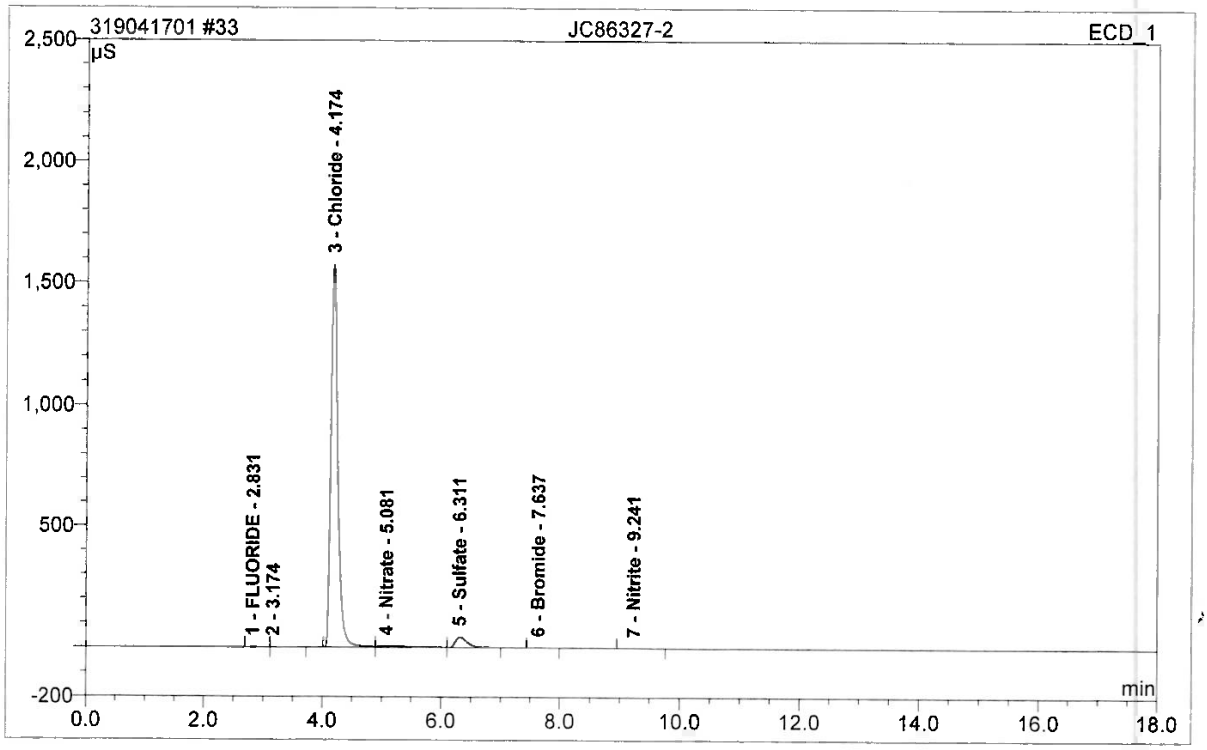
Sample Name:	**GP20673-S2**	*Injection Volume:*	**20.0**
Vial Number:	**23**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 18:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	4.708	0.590	0.23	2.064	BMB
2	4.17	Chloride	1649.536	224.907	88.91	1109.102	BM
3	5.19	Nitrate	8.508	4.063	1.61	8.813	M
4	6.25	Sulfate	80.447	21.518	8.51	142.027	MB
5	7.63	Bromide	3.481	0.624	0.25	6.237	BMB
6	9.17	Nitrite	5.349	1.216	0.48	2.754	BMB
7	17.04	Phosphate	0.028	0.045	0.02	n.a.	BMB
Total:			1752.058	252.963	100.00	1270.998	

33 JC86327-2

Sample Name:	**JC86327-2**	*Injection Volume:*	**20.0**
Vial Number:	**24**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 18:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



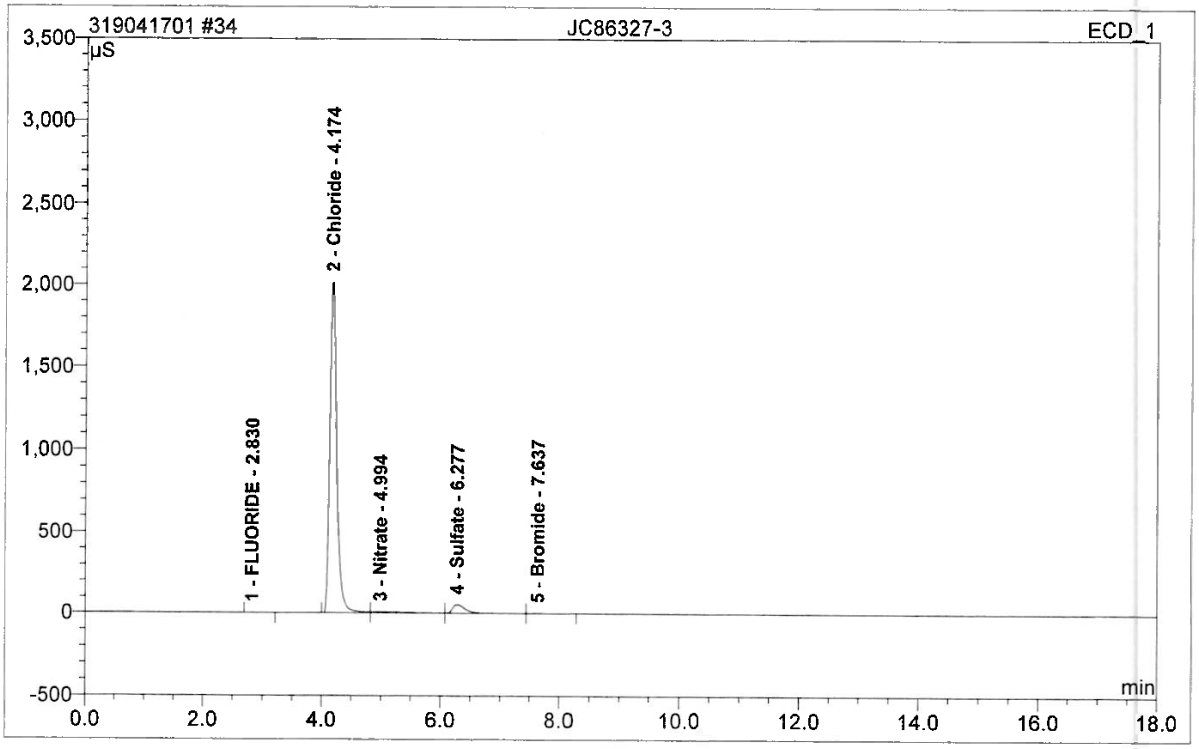
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.560	0.080	0.03	0.299	BM
2	3.17	n.a.	0.051	0.012	0.01	n.a.	MB
3	4.17	Chloride	1575.241	214.678	93.99	1058.654	BM
4	5.08	Nitrate	5.157	3.260	1.43	7.089	M
5	6.31	Sulfate	42.743	9.974	4.37	66.147	MB
6	7.64	Bromide	1.309	0.234	0.10	2.455	BMB
7	9.24	Nitrite	0.806	0.178	0.08	0.567	BMB
Total:			1625.866	228.415	100.00	1135.211	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

34 JC86327-3

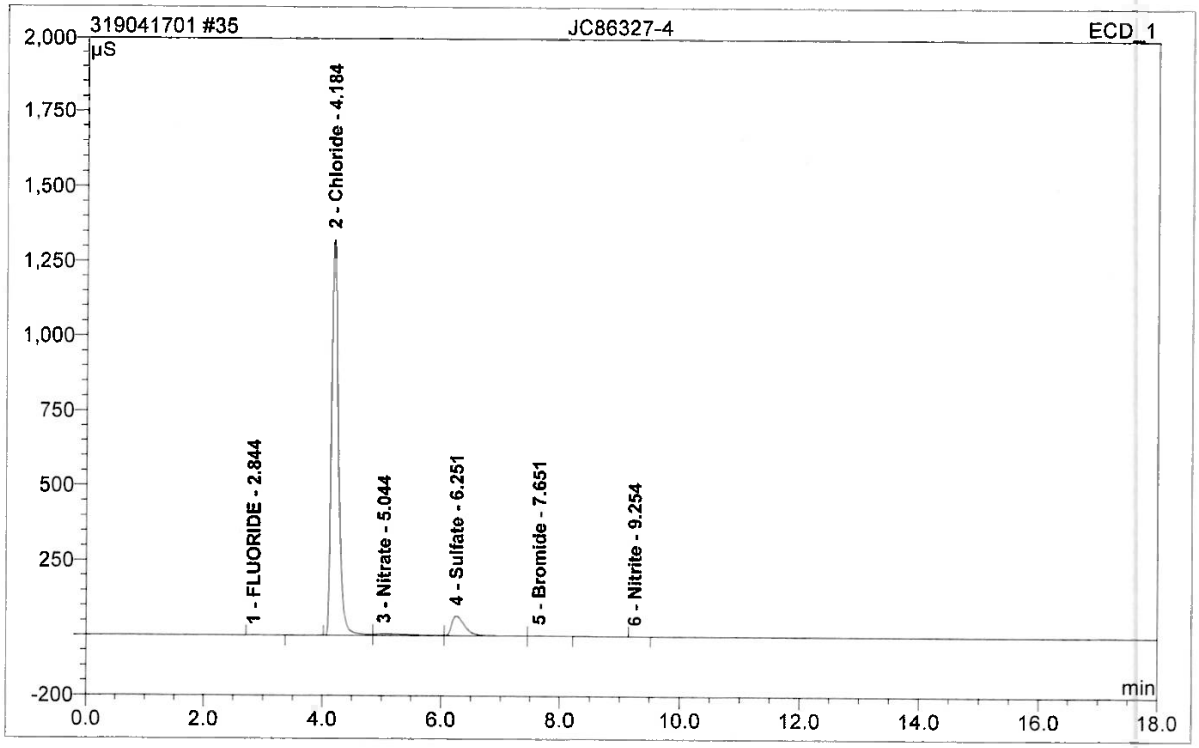
Sample Name:	**JC86327-3**	*Injection Volume:*	**20.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 18:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.484	0.071	0.02	0.270	BMB
2	4.17	Chloride	2014.302	274.071	93.48	1351.576	BM
3	4.99	Nitrate	6.999	5.071	1.73	10.974	M
4	6.28	Sulfate	53.011	13.545	4.62	89.622	M
5	7.64	Bromide	1.837	0.443	0.15	4.480	MB
Total:			2076.633	293.201	100.00	1456.923	

35 JC86327-4

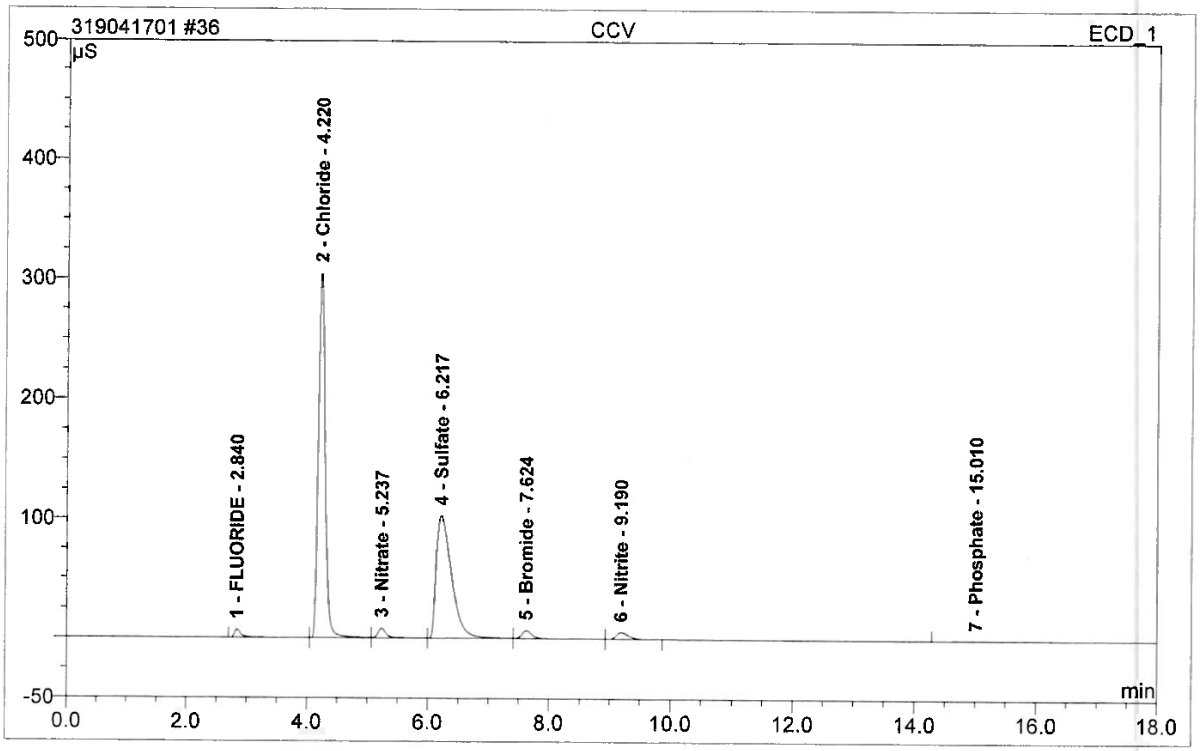
Sample Name:	**JC86327-4**	*Injection Volume:*	**20.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 19:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	0.610	0.115	0.06	0.420	BMB
2	4.18	Chloride	1322.852	181.039	89.27	892.743	BM
3	5.04	Nitrate	5.543	3.784	1.87	8.214	M
4	6.25	Sulfate	66.366	17.468	8.61	115.407	M
5	7.65	Bromide	1.730	0.391	0.19	3.977	MB
6	9.25	Nitrite	0.021	0.004	0.00	0.202	BMB
Total:			1397.123	202.800	100.00	1020.964	

36 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 19:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



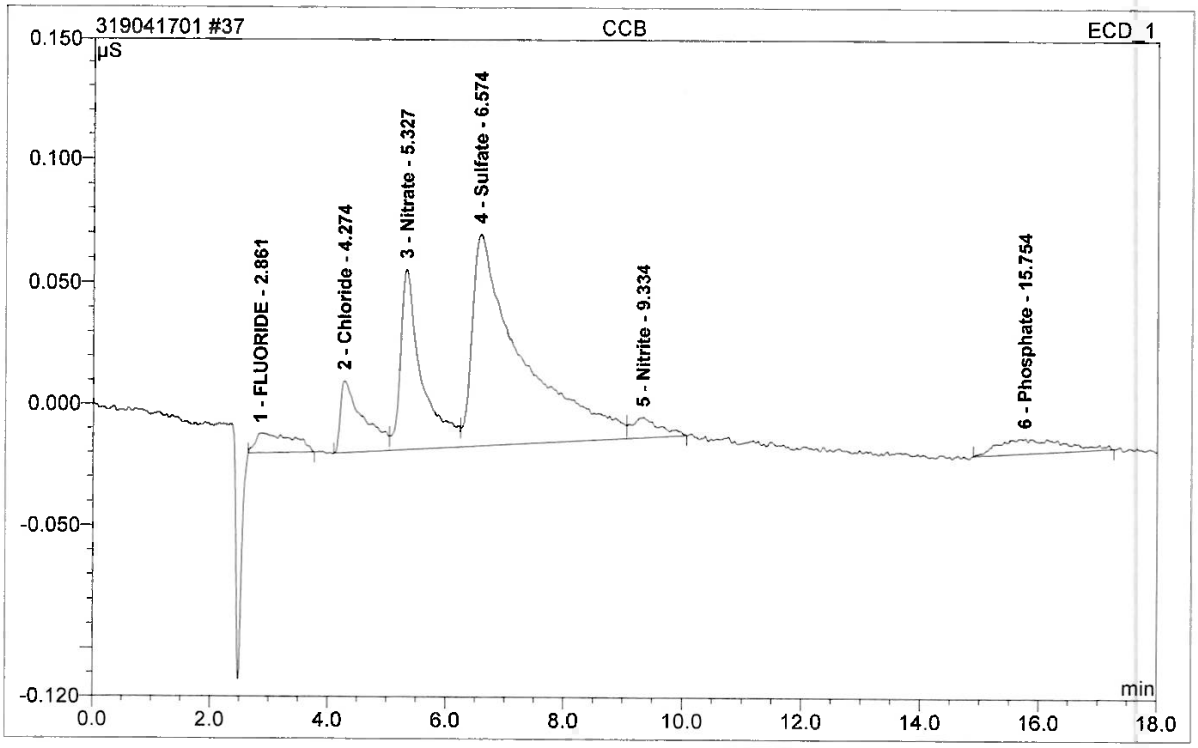
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.84	FLUORIDE	6.844	0.895	1.18	3.118	BM
2	4.22	Chloride	304.274	40.370	53.13	198.975	M
3	5.24	Nitrate	8.171	1.376	1.81	3.048	M
4	6.22	Sulfate	102.941	30.263	39.83	199.514	M
5	7.62	Bromide	6.772	1.449	1.91	14.233	M
6	9.19	Nitrite	5.654	1.311	1.73	2.954	MB
7	15.01	Phosphate	0.195	0.324	0.43	n.a.	BMB
Total:			434.851	75.988	100.00	421.843	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

37 CCB

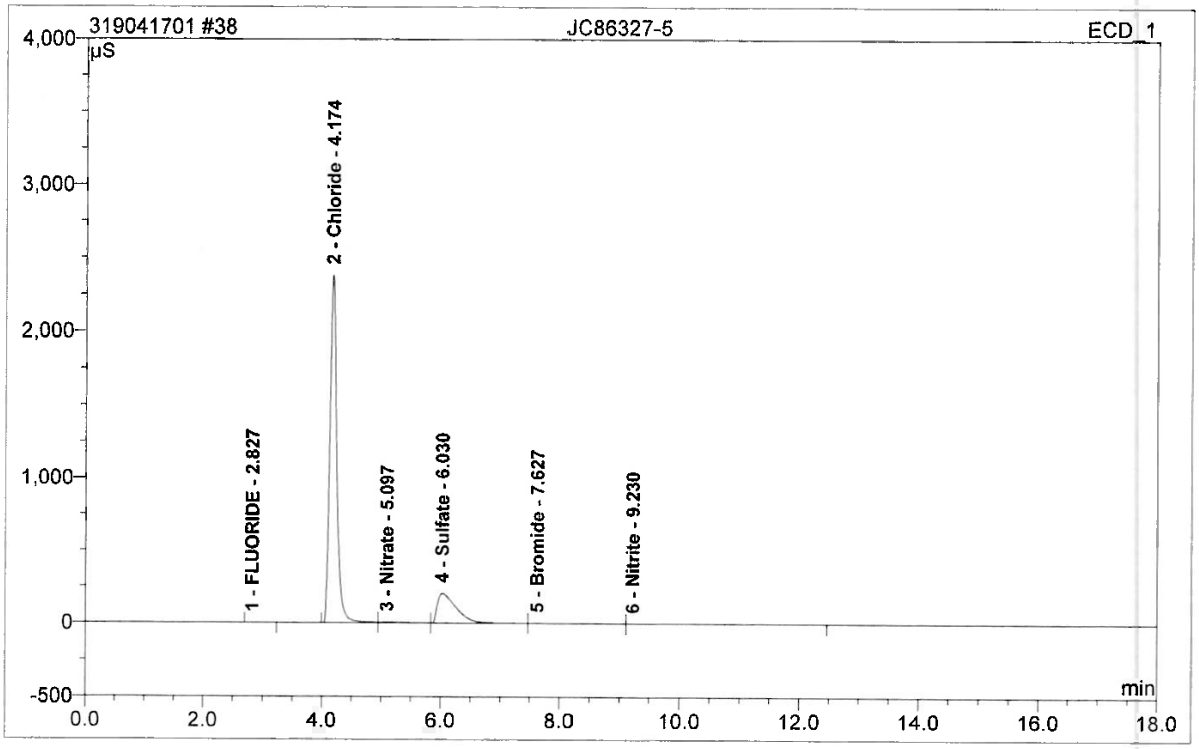
Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 20:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.86	FLUORIDE	0.008	0.006	4.05	0.045	BMB
2	4.27	Chloride	0.030	0.013	9.04	-0.062	BM
3	5.33	Nitrate	0.074	0.031	20.93	0.163	M
4	6.57	Sulfate	0.087	0.085	57.45	1.144	M
5	9.33	Nitrite	0.008	0.005	3.14	0.203	MB
6	15.75	Phosphate	0.006	0.008	5.40	n.a.	BMB
Total:			0.213	0.148	100.00	1.492	

38 JC86327-5

Sample Name:	**JC86327-5**	*Injection Volume:*	**20.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 20:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



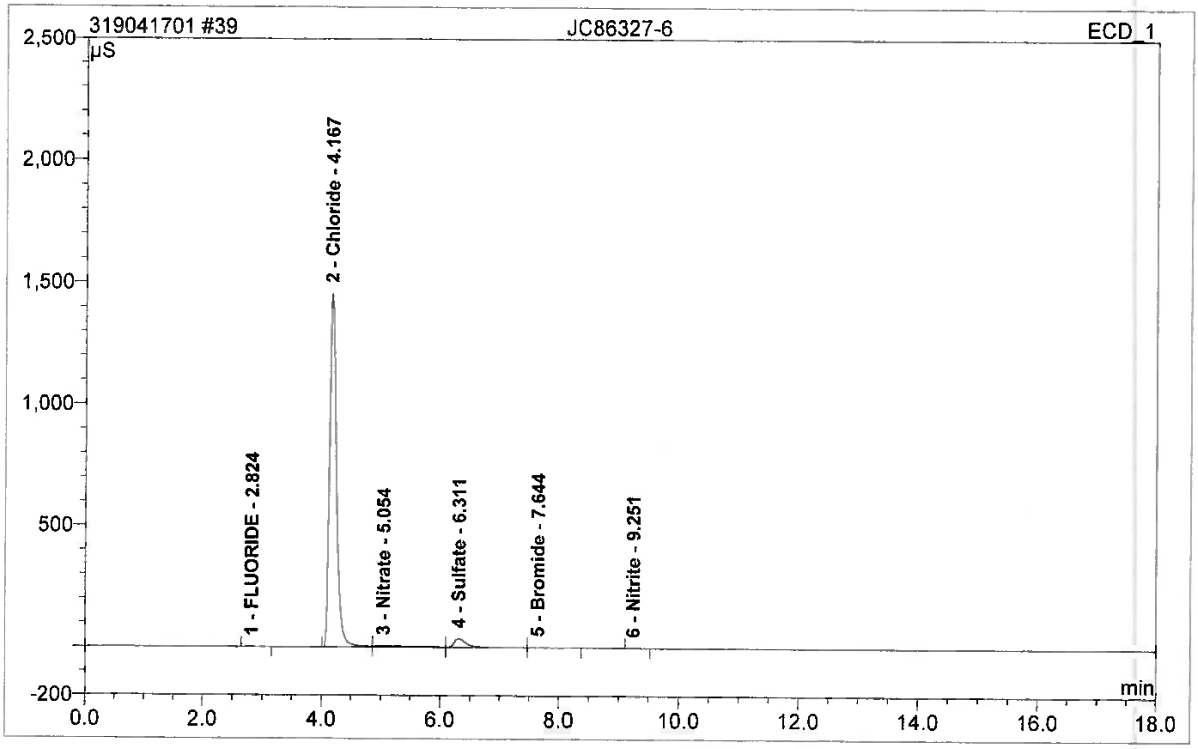
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.093	0.015	0.00	0.077	BMB
2	4.17	Chloride	2377.847	325.591	79.98	1605.670	BM
3	5.10	Nitrate	5.947	3.672	0.90	7.973	M
4	6.03	Sulfate	204.047	75.884	18.64	499.393	M
5	7.63	Bromide	1.844	1.384	0.34	13.606	M
6	9.23	Nitrite	0.421	0.545	0.13	1.340	MB
Total:			2590.199	407.091	100.00	2128.059	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

39 JC86327-6

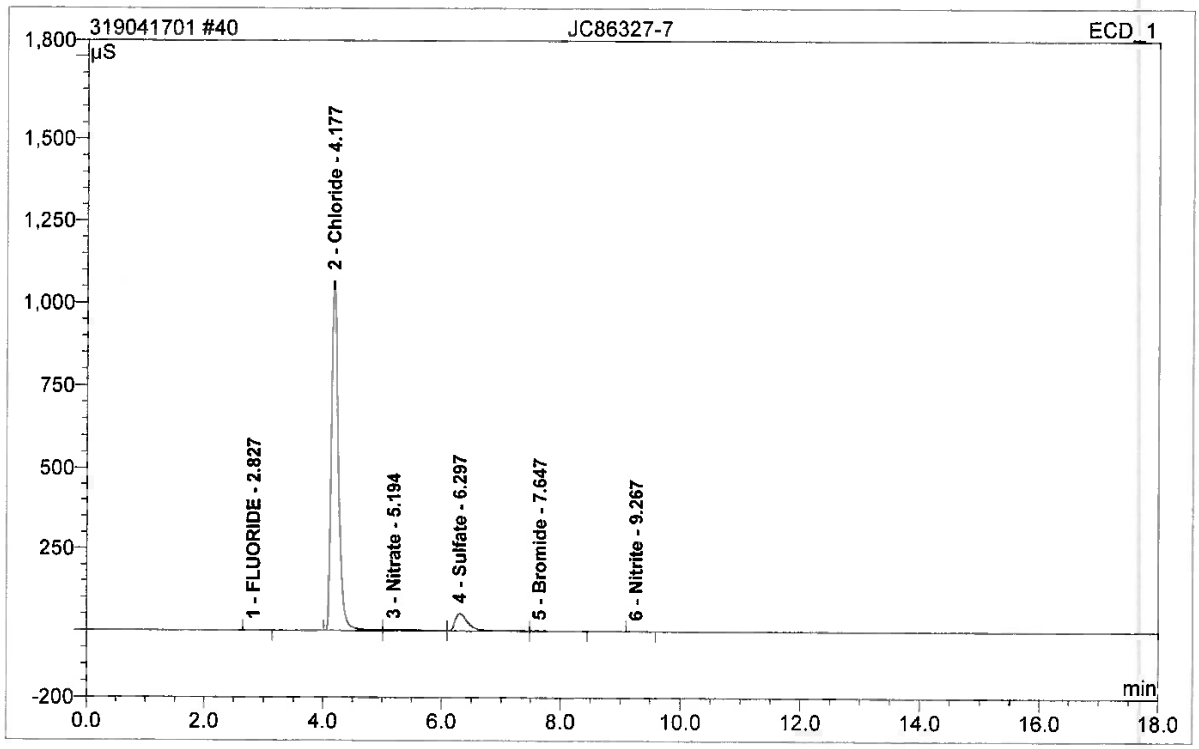
Sample Name:	**JC86327-6**	*Injection Volume:*	**20.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 20:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.82	FLUORIDE	0.433	0.055	0.03	0.213	BMB
2	4.17	Chloride	1453.861	197.497	93.67	973.917	BM
3	5.05	Nitrate	5.447	3.776	1.79	8.196	M
4	6.31	Sulfate	36.709	9.277	4.40	61.565	M
5	7.64	Bromide	0.720	0.224	0.11	2.363	MB
6	9.25	Nitrite	0.024	0.005	0.00	0.204	BMB
Total:			1497.195	210.834	100.00	1046.459	

40 JC86327-7

Sample Name:	**JC86327-7**	*Injection Volume:*	**20.0**
Vial Number:	**31**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 21:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.403	0.050	0.03	0.195	BMB
2	4.18	Chloride	1066.588	147.529	90.66	727.475	BM
3	5.19	Nitrate	3.158	1.839	1.13	4.041	M
4	6.30	Sulfate	51.728	13.146	8.08	86.996	M
5	7.65	Bromide	0.426	0.149	0.09	1.631	MB
6	9.27	Nitrite	0.038	0.008	0.00	0.210	BMB
Total:			1122.341	162.719	100.00	820.548	

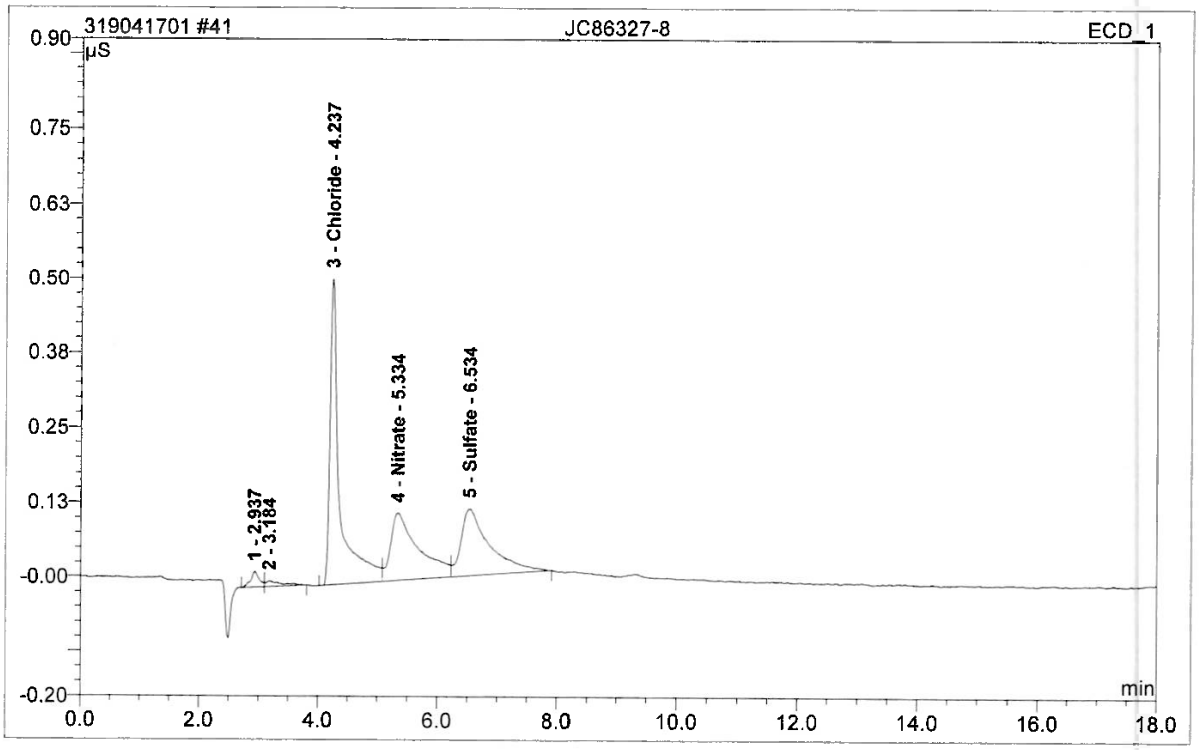
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

13.4
13

41 JC86327-8

Sample Name:	**JC86327-8**	*Injection Volume:*	**20.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 21:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



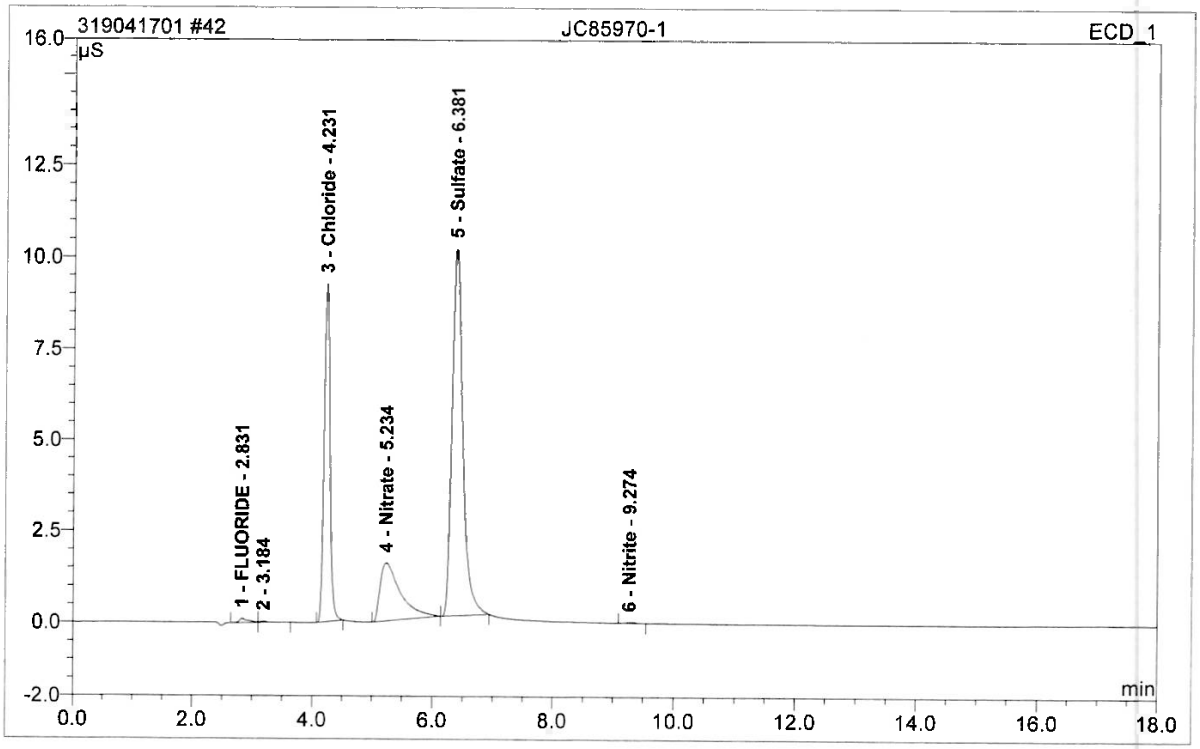
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.94	n.a.	0.026	0.004	1.83	n.a.	BM
2	3.18	n.a.	0.009	0.003	1.22	n.a.	MB
3	4.24	Chloride	0.513	0.098	42.03	0.356	BM
4	5.33	Nitrate	0.114	0.062	26.36	0.229	M
5	6.53	Sulfate	0.113	0.063	27.03	1.000	MB
6	19.70	n.a.	0.008	0.004	1.52	n.a.	BMB
Total:			0.782	0.234	100.00	1.584	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

42 JC85970-1

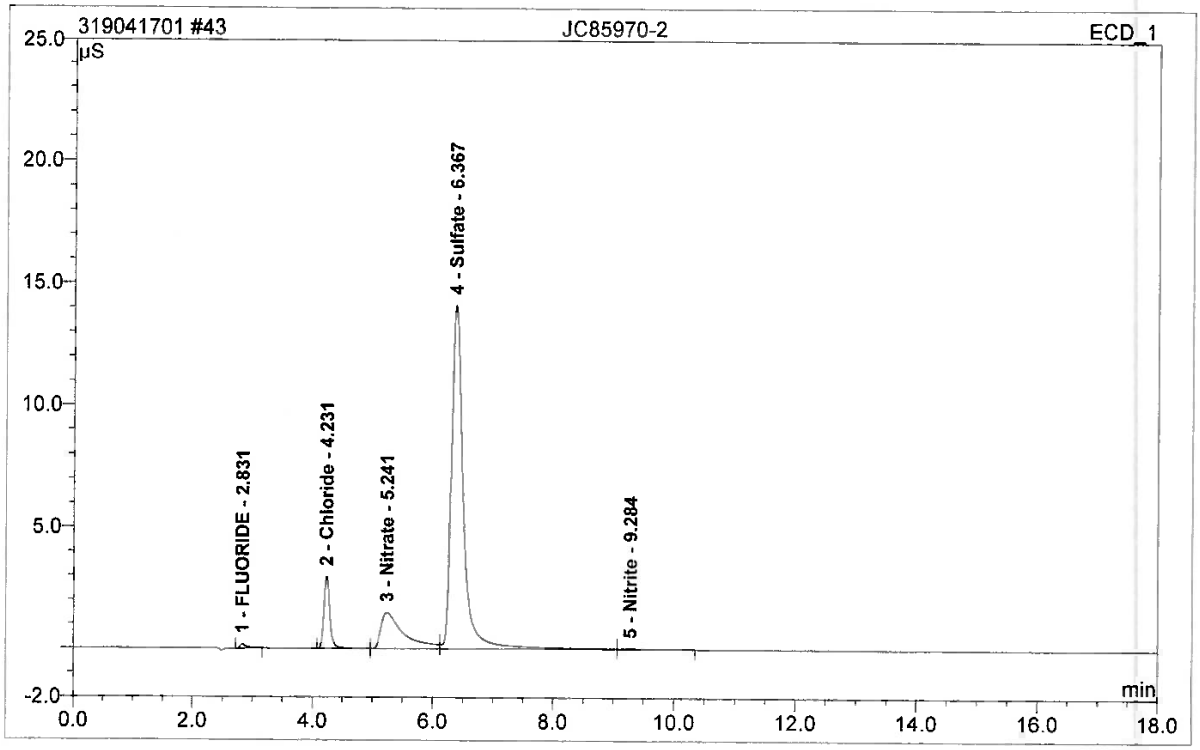
Sample Name:	**JC85970-1**	*Injection Volume:*	**20.0**
Vial Number:	**33**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 22:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.117	0.019	0.51	0.091	BM
2	3.18	n.a.	0.031	0.006	0.15	n.a.	MB
3	4.23	Chloride	9.247	1.045	27.53	5.024	BMB
4	5.23	Nitrate	1.588	0.618	16.27	1.421	BMB
5	6.38	Sulfate	10.038	2.103	55.42	14.409	BMB
6	9.27	Nitrite	0.019	0.004	0.11	0.202	BMB
Total:			21.040	3.795	100.00	21.147	

43 JC85970-2

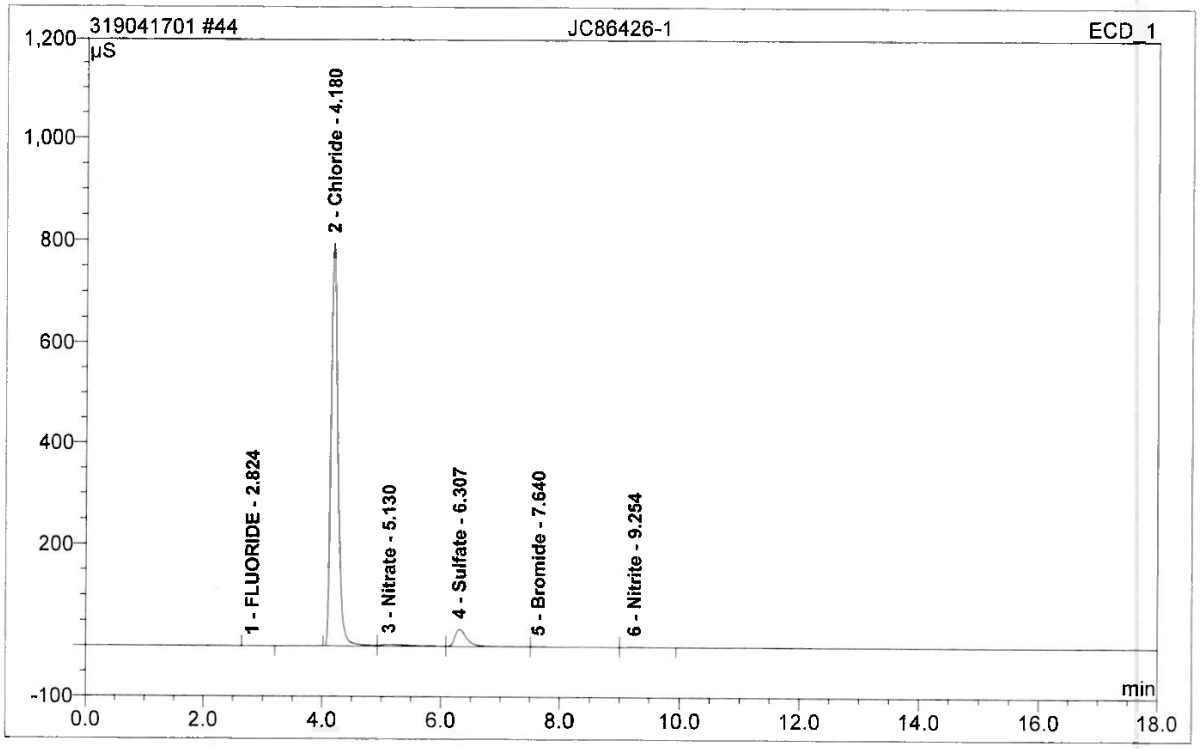
Sample Name:	**JC85970-2**	*Injection Volume:*	**20.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 22:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.163	0.021	0.49	0.096	BMB
2	4.23	Chloride	2.959	0.340	7.88	1.550	BM
3	5.24	Nitrate	1.476	0.642	14.86	1.473	M
4	6.37	Sulfate	14.121	3.298	76.39	22.264	M
5	9.28	Nitrite	0.032	0.016	0.38	0.228	MB
Total:			18.750	4.317	100.00	25.611	

44 JC86426-1

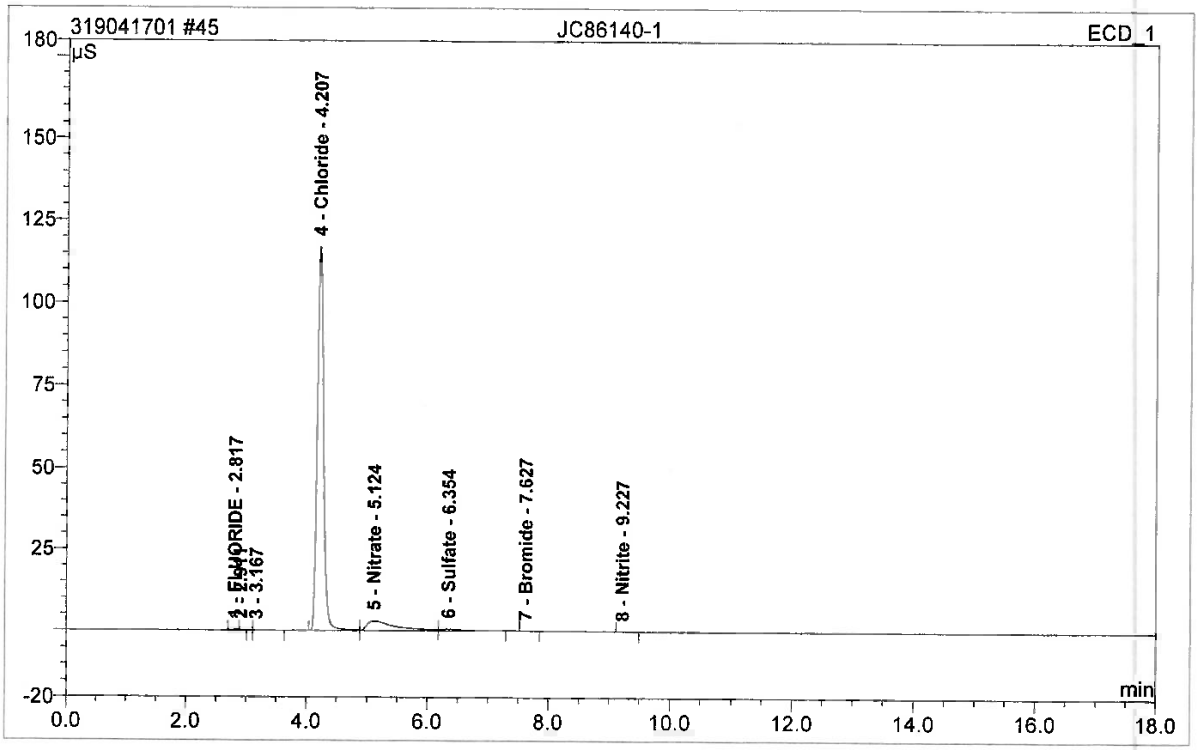
Sample Name:	**JC86426-1**	*Injection Volume:*	**20.0**
Vial Number:	**35**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 22:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.82	FLUORIDE	0.083	0.012	0.01	0.066	BMB
2	4.18	Chloride	792.823	108.633	90.77	535.646	BM
3	5.13	Nitrate	3.707	2.248	1.88	4.920	M
4	6.31	Sulfate	33.584	8.290	6.93	55.078	M
5	7.64	Bromide	0.387	0.300	0.25	3.096	M
6	9.25	Nitrite	0.776	0.196	0.16	0.605	MB
Total:			831.360	119.680	100.00	599.412	

45 JC86140-1

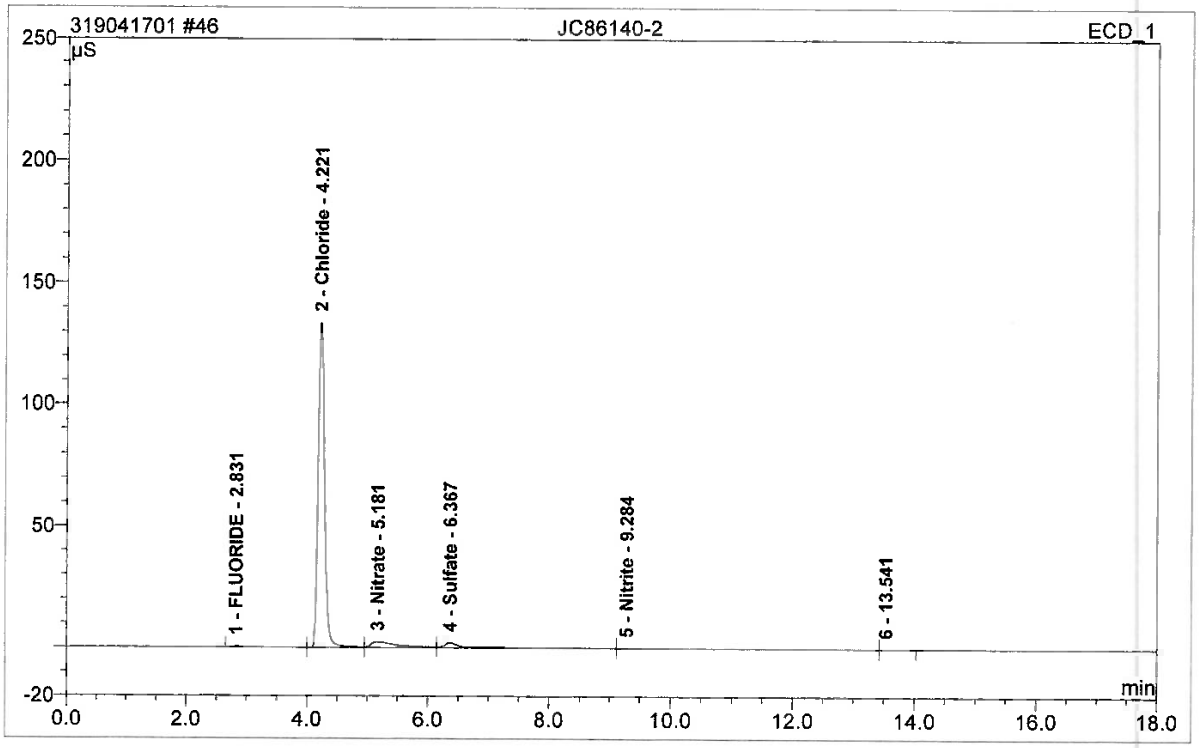
Sample Name:	**JC86140-1**	*Injection Volume:*	**20.0**
Vial Number:	**36**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 23:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.82	FLUORIDE	0.207	0.035	0.22	0.146	BM
2	2.91	n.a.	0.023	0.002	0.01	n.a.	Rd
3	3.17	n.a.	0.027	0.006	0.04	n.a.	MB
4	4.21	Chloride	116.979	14.471	88.42	71.244	BM
5	5.12	Nitrate	2.972	1.630	9.96	3.592	M
6	6.35	Sulfate	0.518	0.218	1.33	2.020	MB
7	7.63	Bromide	0.015	0.003	0.02	0.214	BMB
8	9.23	Nitrite	0.006	0.001	0.01	0.196	BMB
Total:			120.746	16.366	100.00	77.412	

46 JC86140-2

Sample Name:	**JC86140-2**	*Injection Volume:*	**20.0**
Vial Number:	**37**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/17/2019 23:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



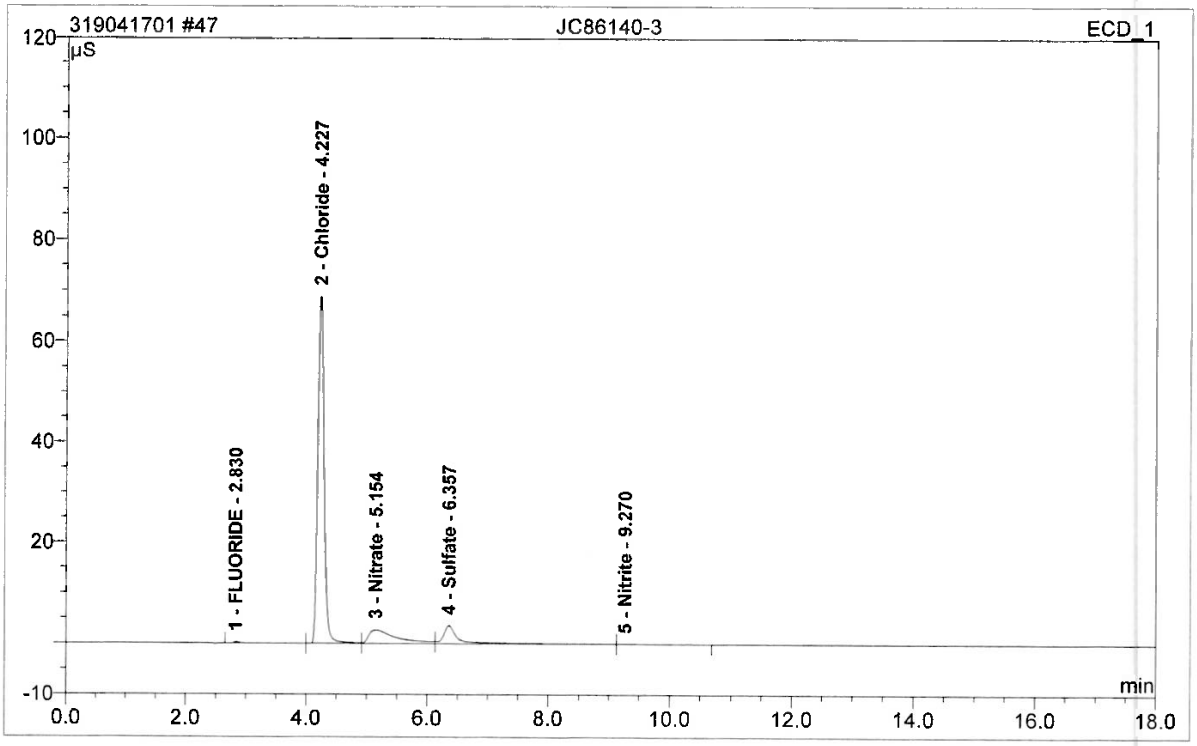
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.435	0.069	0.36	0.261	BM
2	4.22	Chloride	133.749	16.732	88.51	82.391	M
3	5.18	Nitrate	2.358	1.220	6.45	2.713	M
4	6.37	Sulfate	2.144	0.795	4.21	5.812	M
5	9.28	Nitrite	0.057	0.088	0.46	0.378	M
6	13.54	n.a.	0.003	0.001	0.01	n.a.	MB
Total:			138.746	18.904	100.00	91.554	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

47 JC86140-3

Sample Name:	**JC86140-3**	*Injection Volume:*	**20.0**
Vial Number:	**38**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/18/2019 0:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



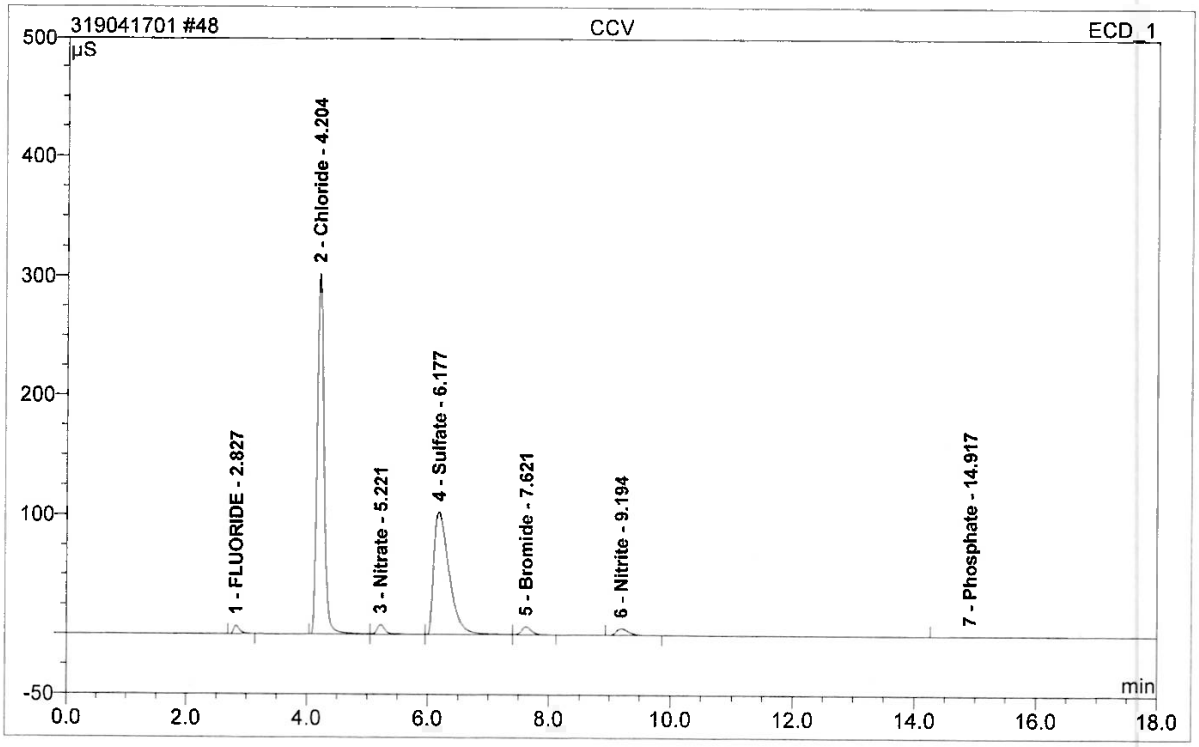
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.267	0.043	0.40	0.174	BM
2	4.23	Chloride	68.772	8.376	76.57	41.179	M
3	5.15	Nitrate	2.681	1.421	12.99	3.145	M
4	6.36	Sulfate	3.540	1.077	9.84	7.663	M
5	9.27	Nitrite	0.035	0.022	0.20	0.239	MB
Total:			75.294	10.938	100.00	52.399	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

48 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**39**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/18/2019 0:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



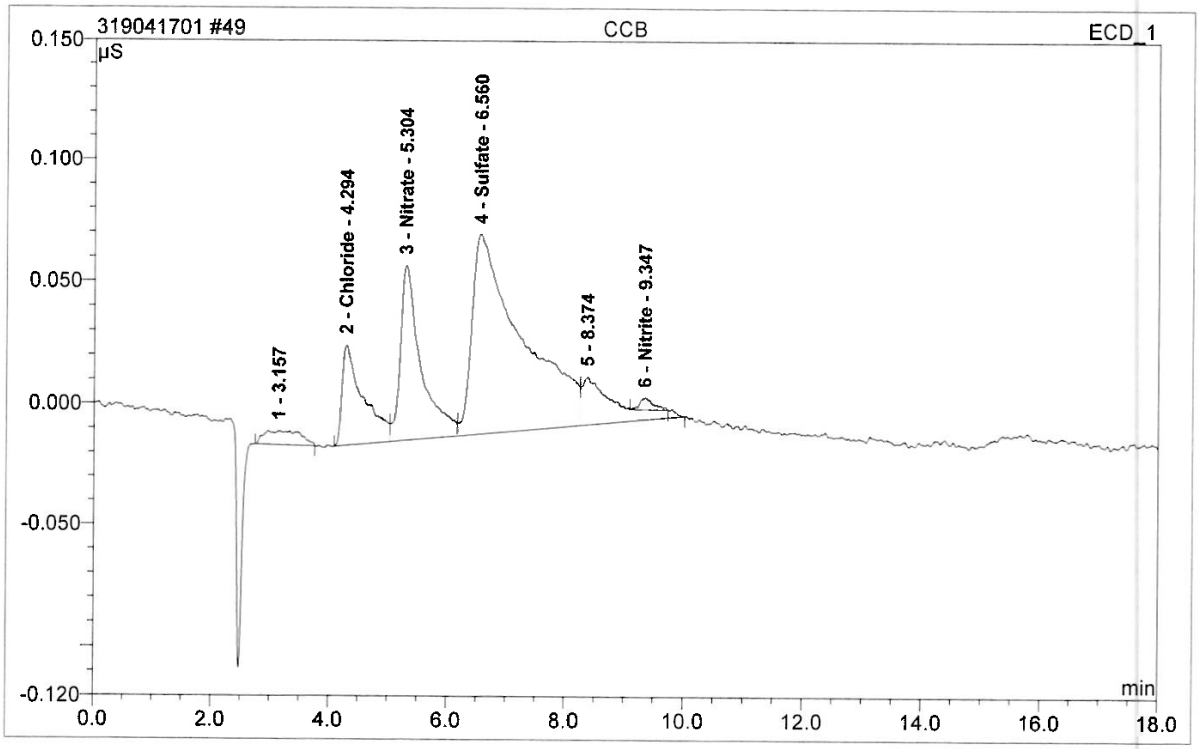
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	6.894	0.808	1.08	2.817	BMB
2	4.20	Chloride	302.142	40.146	53.46	197.869	BM
3	5.22	Nitrate	8.089	1.290	1.72	2.864	M
4	6.18	Sulfate	102.817	29.951	39.88	197.461	M
5	7.62	Bromide	6.588	1.255	1.67	12.353	MB
6	9.19	Nitrite	5.558	1.294	1.72	2.919	BMB
7	14.92	Phosphate	0.235	0.355	0.47	n.a.	BMB
Total:			432.323	75.099	100.00	416.284	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

49 CCB

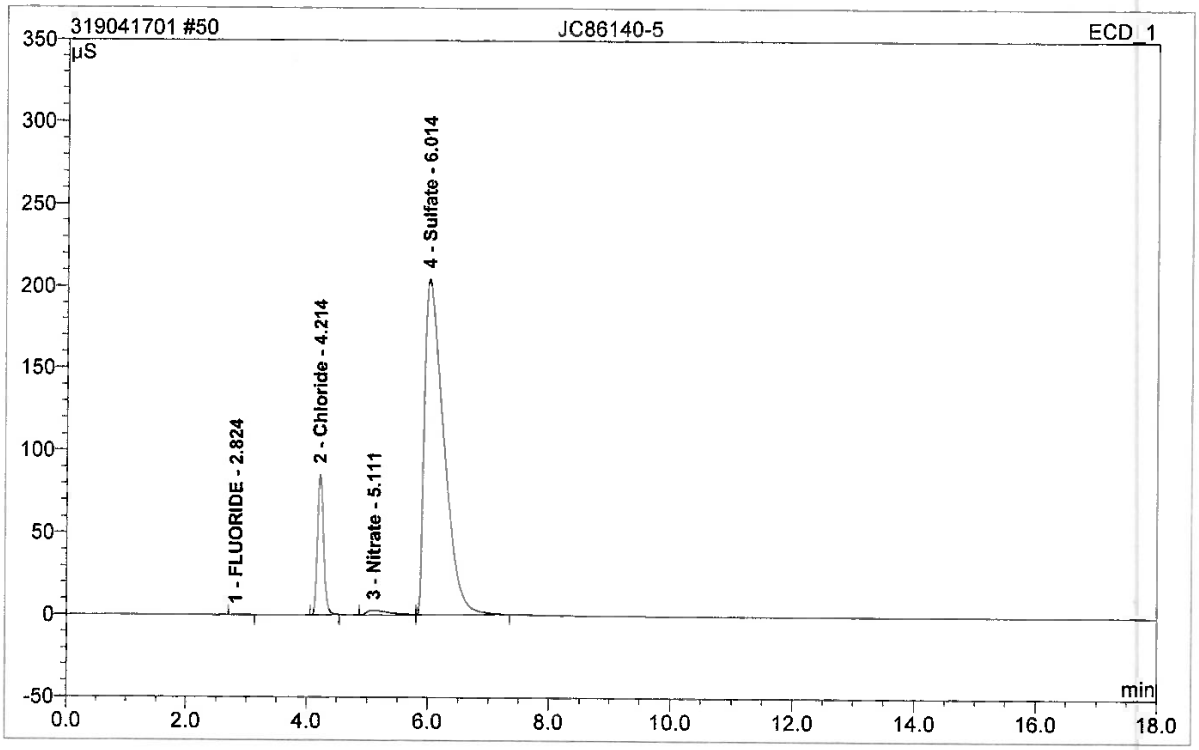
Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**40**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/18/2019 0:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.16	n.a.	0.006	0.004	2.89	n.a.	BMB
2	4.29	Chloride	0.041	0.017	11.84	-0.044	BM
3	5.30	Nitrate	0.071	0.029	20.05	0.158	M
4	6.56	Sulfate	0.081	0.080	55.23	1.108	M
5	8.37	n.a.	0.019	0.013	9.10	n.a.	MB
6	9.35	Nitrite	0.005	0.001	0.90	0.196	Rd
Total:			0.224	0.144	100.00	1.418	

50 JC86140-5

Sample Name:	**JC86140-5**	*Injection Volume:*	**20.0**
Vial Number:	**41**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/18/2019 1:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.82	FLUORIDE	0.284	0.035	0.04	0.144	BMB
2	4.21	Chloride	85.399	10.256	11.85	50.455	BMB
3	5.11	Nitrate	2.781	1.201	1.39	2.673	BM
4	6.01	Sulfate	204.532	75.078	86.73	494.097	MB
Total:			292.997	86.570	100.00	547.369	

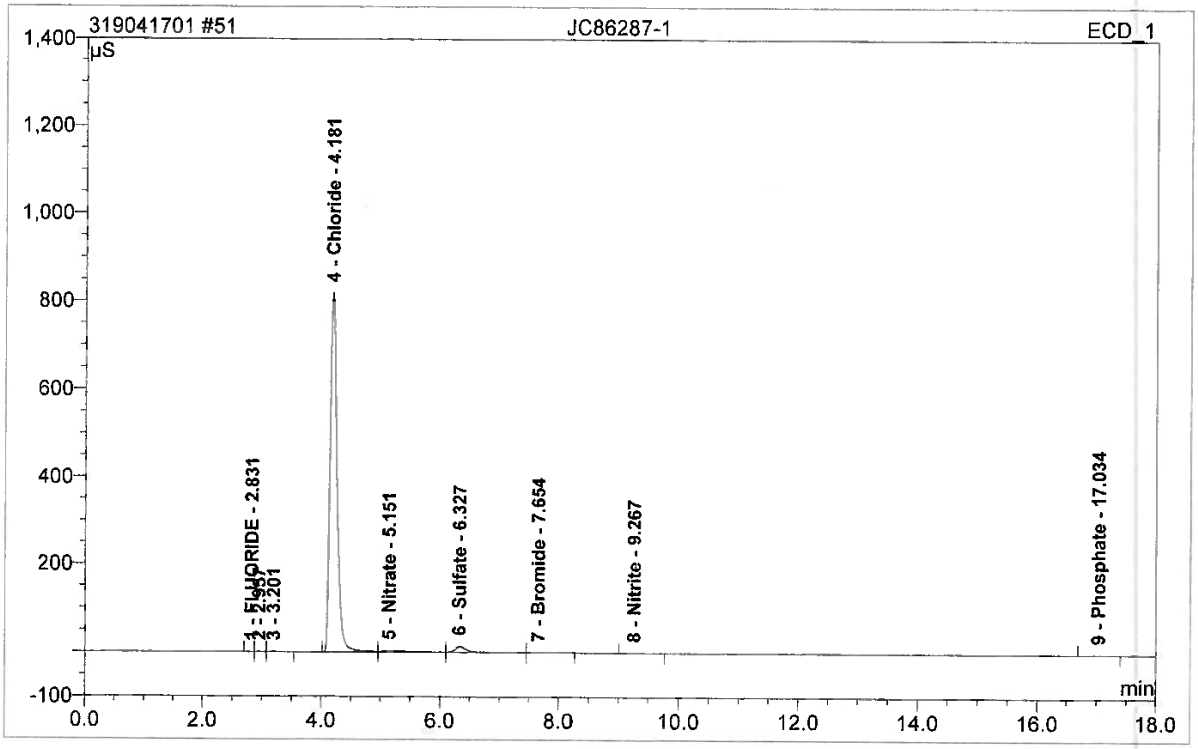
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

51 JC86287-1

Sample Name:	**JC86287-1**	*Injection Volume:*	**20.0**
Vial Number:	**42**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/18/2019 1:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



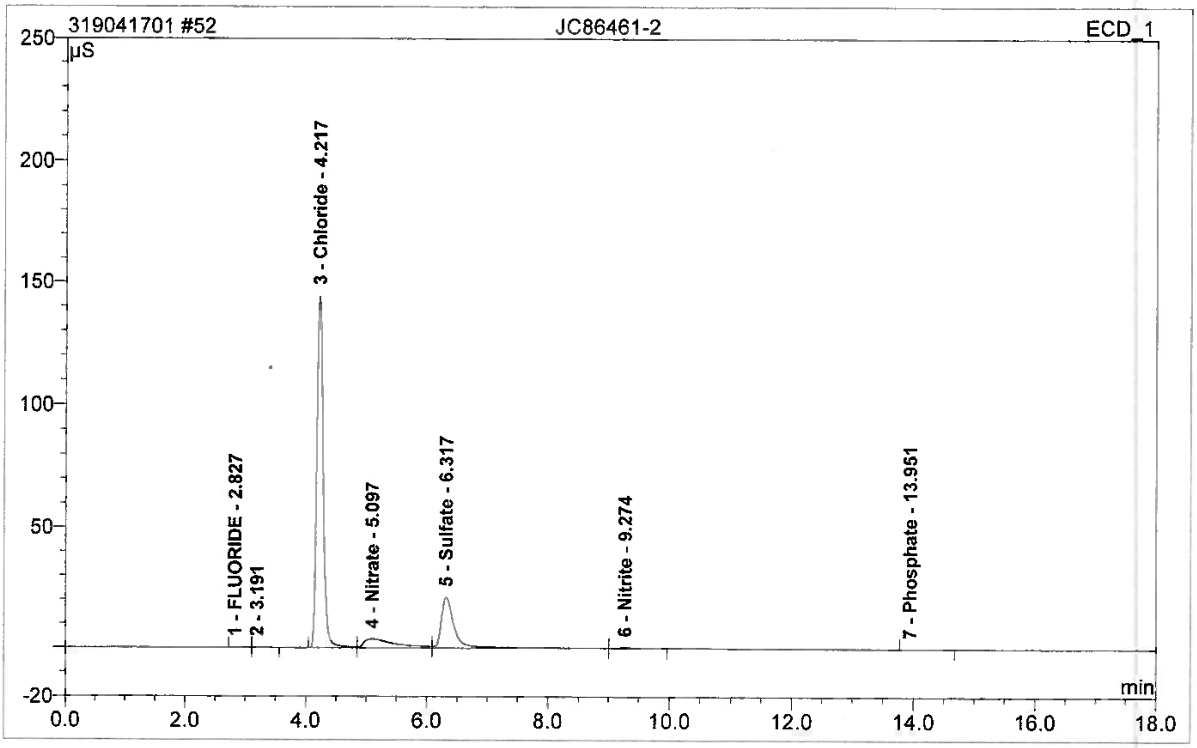
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.152	0.014	0.01	0.072	BM
2	2.96	n.a.	0.220	0.030	0.03	n.a.	M
3	3.20	n.a.	0.922	0.123	0.10	n.a.	MB
4	4.18	Chloride	818.454	112.727	95.24	555.833	BM
5	5.15	Nitrate	3.366	1.936	1.64	4.250	M
6	6.33	Sulfate	13.488	3.273	2.77	22.098	M
7	7.65	Bromide	0.693	0.178	0.15	1.914	MB
8	9.27	Nitrite	0.343	0.077	0.06	0.354	BMB
9	17.03	Phosphate	0.003	0.001	0.00	n.a.	BMB
Total:			837.642	118.359	100.00	584.522	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

52 JC86461-2

Sample Name:	**JC86461-2**	*Injection Volume:*	**20.0**
Vial Number:	**43**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/18/2019 2:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.037	0.007	0.03	0.049	BM
2	3.19	n.a.	0.009	0.002	0.01	n.a.	MB
3	4.22	Chloride	144.177	18.006	70.67	88.674	BM
4	5.10	Nitrate	3.558	2.107	8.27	4.616	M
5	6.32	Sulfate	21.051	5.266	20.67	35.203	M
6	9.27	Nitrite	0.319	0.084	0.33	0.370	MB
7	13.95	Phosphate	0.005	0.002	0.01	n.a.	BMB
8	18.40	n.a.	0.014	0.002	0.01	n.a.	BMB
Total:			169.170	25.477	100.00	128.912	

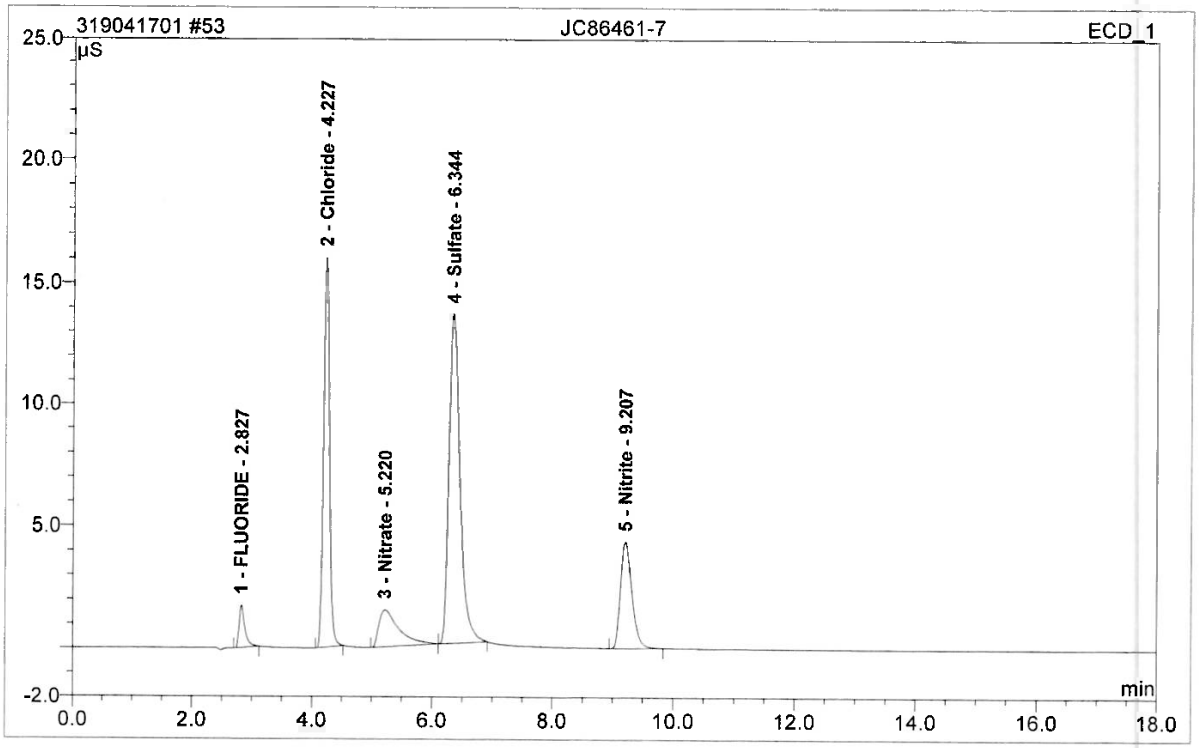
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

53 JC86461-7

Sample Name:	**JC86461-7**	*Injection Volume:*	**20.0**
Vial Number:	**44**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/18/2019 2:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



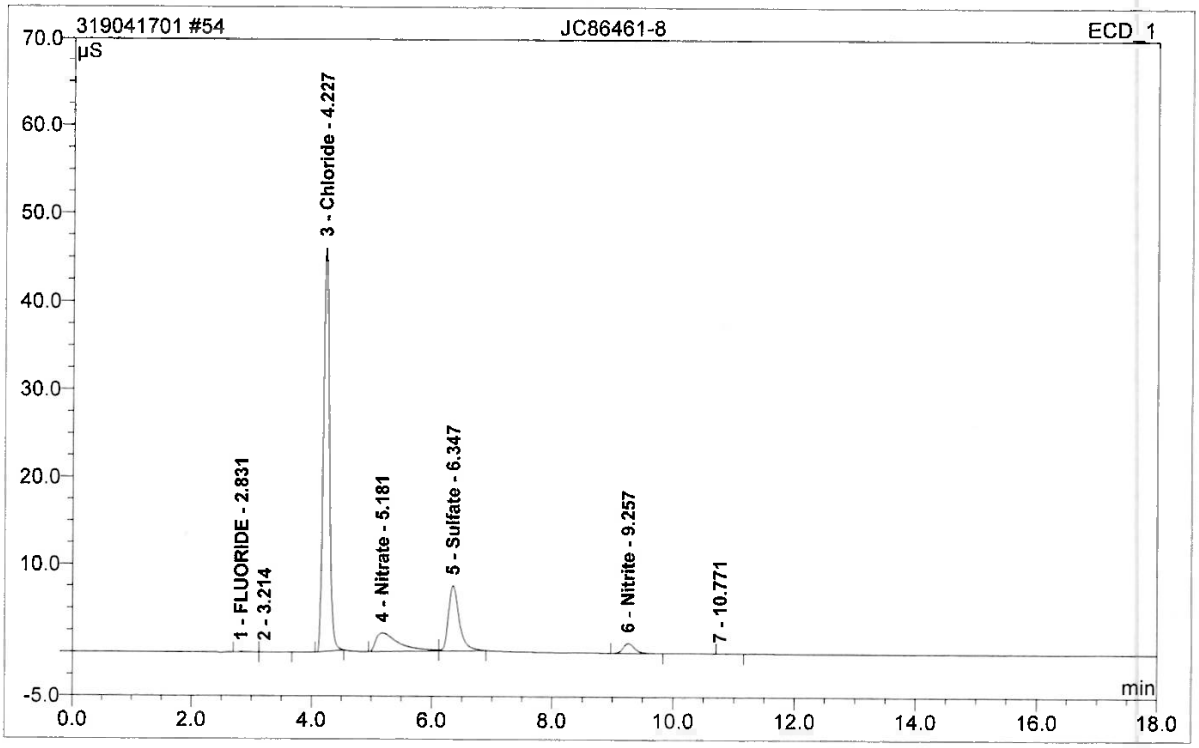
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	1.749	0.194	3.00	0.695	BMB
2	4.23	Chloride	15.983	1.836	28.34	8.925	BMB
3	5.22	Nitrate	1.515	0.582	8.99	1.346	BMB
4	6.34	Sulfate	13.530	2.889	44.61	19.577	BMB
5	9.21	Nitrite	4.361	0.975	15.05	2.246	BMB
Total:			37.138	6.477	100.00	32.790	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

54 JC86461-8

Sample Name:	**JC86461-8**	*Injection Volume:*	**20.0**
Vial Number:	**45**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/18/2019 2:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	0.060	0.010	0.12	0.057	BM
2	3.21	n.a.	0.009	0.002	0.03	n.a.	MB
3	4.23	Chloride	45.982	5.424	66.50	26.623	BMB
4	5.18	Nitrate	2.123	0.938	11.50	2.109	BM
5	6.35	Sulfate	7.394	1.538	18.85	10.693	MB
6	9.26	Nitrite	1.110	0.243	2.98	0.705	BMB
7	10.77	n.a.	0.008	0.002	0.02	n.a.	BMB
Total:			56.686	8.156	100.00	40.187	

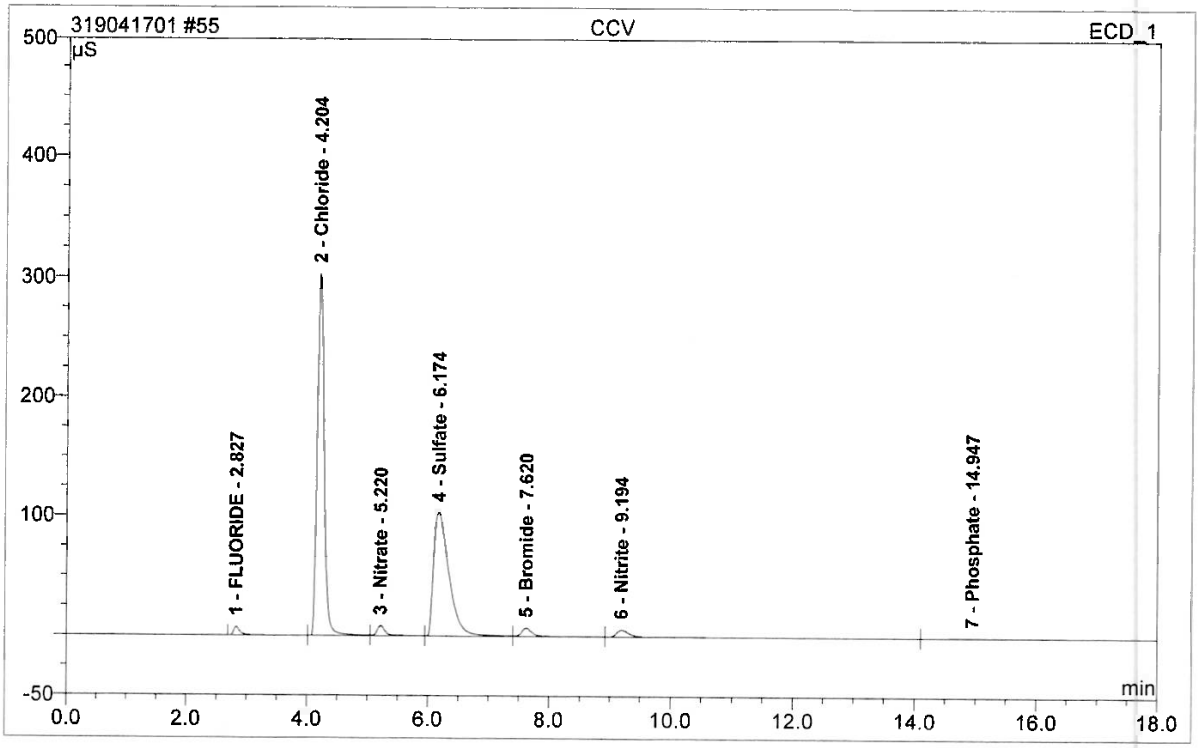
anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#3 Sequence:319041701

55 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**46**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/18/2019 3:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



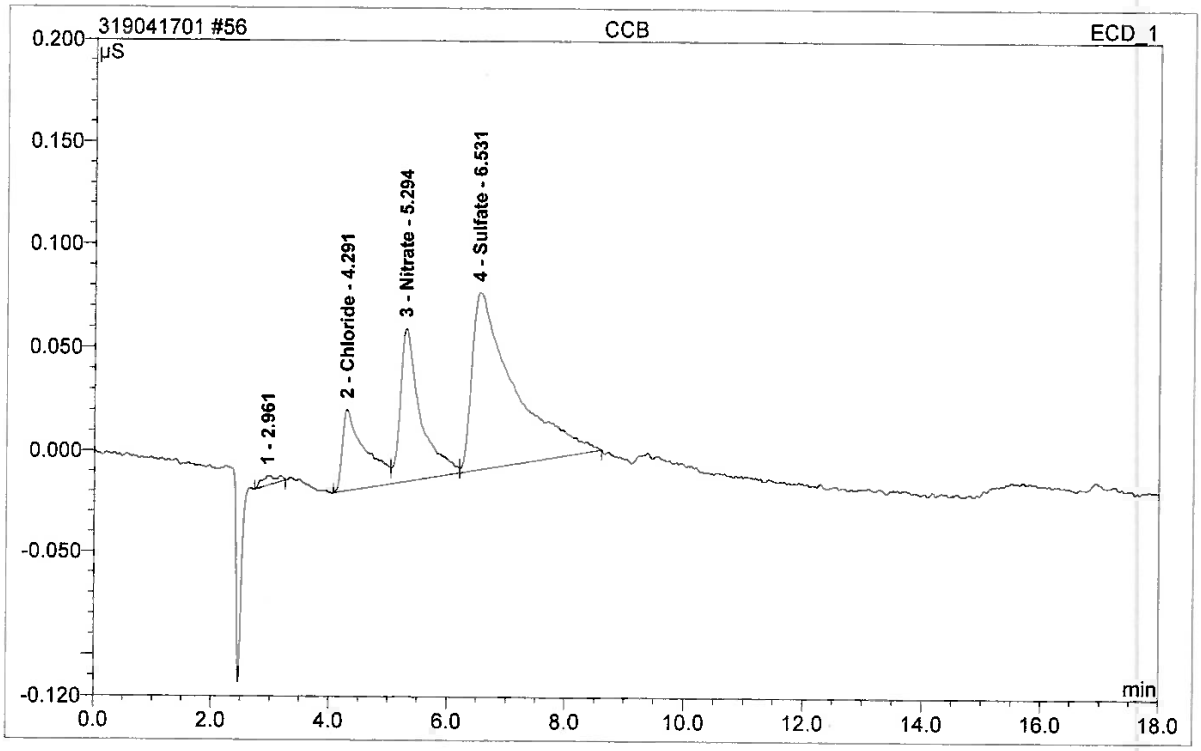
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.83	FLUORIDE	7.017	0.931	1.21	3.242	BM
2	4.20	Chloride	302.709	40.347	52.57	198.862	M
3	5.22	Nitrate	8.236	1.419	1.85	3.140	M
4	6.17	Sulfate	103.431	30.364	39.56	200.174	M
5	7.62	Bromide	6.895	1.630	2.12	15.982	M
6	9.19	Nitrite	5.750	1.689	2.20	3.749	M
7	14.95	Phosphate	0.239	0.371	0.48	n.a.	MB
Total:			434.276	76.749	100.00	425.149	

anionssystem3/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

56 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**47**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/18/2019 3:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	2.96	n.a.	0.005	0.001	1.17	n.a.	BMB
2	4.29	Chloride	0.040	0.018	15.04	-0.040	BM
3	5.29	Nitrate	0.074	0.030	24.80	0.160	M
4	6.53	Sulfate	0.086	0.071	58.99	1.048	MB
Total:			0.205	0.120	100.00	1.168	

Alkalinity

GN Batch ID:	GN94243	**Average Sulfuric Normality:**	.0203	**Product:**	ALK
Analyst:	JOHN	**pH Meter ID:**		**Method:**	SM21 2320 B-11
Analysis Date:	4/17/2019	**Reporting Limit:**	5.0	**Units:**	mg/L

Calculation for samples > 20 mg/l

$$ALK = \frac{A \times N \times 50000}{\text{Sample Vol}}$$

Calculation for samples < 20 mg/l

$$ALK = \frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$$

Start Time: 19:00 **End Time:** 21:54

Spike Prep: 1ml of 5000 ppm Na+ phosphate dibasic to 100ml DI H2O = 50ppm

Spike Prep: 5ml of 5000 ppm Na+ phosphate dibasic to 100ml DI H2O = 250ppm

QC Summary:

DUP Sample ID:	JC86140-1	**Original:**	283.69	**Duplicate:**	287.75	**% RPD:**	1.42
MB Date:	GN94243-MB1	**Result:**	<5	**RL:**	5	**< MDL?**	YES
Spike Blank:	51.26	**Spike Amt:**	50.00	**% Rec:**	102.52		
Spike Blank (2):	247.15	**Spike Amt:**	250.00	**% Rec:**	98.86		
External QC (ICV):		**Cont. Limit:**		**Known:**		**Res:**	**% Rec:**

Bottle #	Sample ID	Sample Volume (ml)	Initial pH	Initial Reading for Titrant in ml (D)	Final pH 4.5 reading for titrant in ml (E)	Total vol of Titrant to pH 4.5 in ml (E - D = A)	Volume used from 4.5 to 4.2 in mls (F)	Total vol of Titrant to pH 4.2 in ml (F + A = C)	Result (mg/L)	Final Result (mg/L)	RL	Analysis Time
NA	pH 4.0 check (+/- 0.05)	NA	4.000	NA	NA	NA	NA	NA	NA	NA	NA	19:00
NA	pH 7.0 check (+/- 0.05)	NA	7.010	NA	NA	NA	NA	NA	NA	NA	NA	
NA	pH 10.0 check (+/- 0.05)	NA	10.010	NA	NA	NA	NA	NA	NA	NA	NA	
	GN94243-MB1	100	6.350	0.00	0.20	0.20	0.10	0.30	1.01	<5	5	20:33
	GN94243-B1	100	7.860	0.00	5.05	5.05			51.26	51.26	5	20:33
	GN94243-B2	100	8.080	0.00	24.35	24.35			247.15	247.15	5	20:33
5	GN94243-D1	100	5.780	0.00	28.35	28.35			287.75	287.75	5	20:33
5	JC86140-1	100	5.810	0.00	27.95	27.95			283.69	283.69	5	20:33
na	JC85413-30	100	6.770	0.00	0.40	0.40	0.05	0.45	3.55	<5	5	20:33

13.5

13

ppm
0ppm

alysis
ime

9:00
0:33
0:33
0:33
0:33
0:33
0:33

Alkalinity

Bottle #	Sample ID	Sample Volume (ml)	Initial pH	Initial Reading for Titrant in ml (D)	Final pH 4.5 reading for titrant in ml (E)	Total vol of Titrant to pH 4.5 in ml (E - D = A)	Volume used from 4.5 to 4.2 in mls (F)	Total vol of Titrant to pH 4.2 in ml (F + A = C)	Result (mg/L)	Final Result (mg/L)	RL	Analysis Time
5	JC86140-2	100	5.570	0.00	16.35	16.35			165.95	165.95	5	20:33
4	JC86140-3	100	6.040	0.00	22.70	22.70			230.41	230.41	5	20:33
4	JC86140-5	100	7.530	0.00	29.50	29.50			299.43	299.43	5	20:33
6	JC86285-1	100	5.060	0.00	1.75	1.75	0.20	1.95	15.73	15.73	5	20:33
	pH 4.0 check (+/- 0.2)		4.050									20:33
5	JC86285-2	100	6.390	0.00	20.75	20.75			210.61	210.61	5	21:35
5	JC86285-3	100	4.270	0.00	0.00	0.00	0.10	0.10	-1.015	<5	5	21:35
5	JC86285-4	100	6.420	0.00	24.90	24.90			252.74	252.74	5	21:35
6	JC86344-11	100	4.210	0.00	0.00	0.00	0.00	0.00	0.001015	<5	5	21:35
3	JC86351-13	100	6.690	0.00	7.35	7.35			74.60	74.60	5	21:35
3	JC86351-14	100	8.220	0.00	25.20	25.20			255.78	255.78	5	21:35
3	JC86351-15	100	6.540	0.00	3.05	3.05			30.96	30.96	5	21:35
3	JC86351-16	100	6.990	0.00	7.05	7.05			71.56	71.56	5	21:35
6	JC86398-1	100	7.350	0.00	48.20	48.20			489.23	489.23	5	21:35
6	JC86398-2	50	7.390	0.00	17.50	17.50			355.25	355.25	10	21:35
	pH 4.0 check (+/- 0.2)		4.060									21:35
6	JC86461-2	50	7.590	0.00	24.00	24.00			487.20	487.20	10	
4	JC86461-7	50	6.300	0.00	4.35	4.35			88.31	88.31	10	
4	JC86461-8	50	7.680	0.00	10.80	10.80			219.24	219.24	10	
6	jc86426-1	100	6.740	0.00	25.55	25.55			259.33	259.33	5	
	pH 4.0 check (+/- 0.2)		4.080									21:54

alysis ime
0:33
0:33
0:33
0:33
0:33
1:35
1:35
1:35
1:35
1:35
1:35
1:35
1:35
1:35
1:35
1:35
1:54

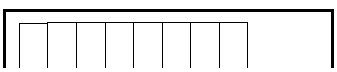
Alkalinity

Reagent Lot #	Reagent Lot #
pH Buffer 4	fisher 177755 xp 10/19
pH Buffer 7	fisher 183273 xp 5/20
pH Buffer 10	fisher 181282 xp 5/20
H2SO4 Titrant	gne2-57248-alkalinity xp 8/15/19
Sodium Phosphate Diabasic	gne3-57467-alkalinity xp 9/11/19

Reagent Lot #	Reagent Lot #

Comments:

Approved By: MIRELA Approval Date: 4/18/2019



SGS

GN94251

TEST: CHLORINE, TOTAL RESIDUAL (TRC)
ANALYST: MO
METHOD: SM4500CL F-11
FAS PREP. DATE: 4/17/19
See reagent reference log attached.

MB 04/22

DATE: 4/17/19
RL: 0.10 UNITS: MG/L
NORMALITY OF FAS: 0.00294

Calculation = (Vol. of Titrant in ml) x (N FAS/0.00282) x (Dil. Factor) = TRC in mg/l

Sample Description	pH with the range of 6.2 to 6.5 (Y/N)	Analysis Time	Dilution	Sample Volume in ml	Titrant Start in ml	Titrant Finish in ml	Total Volume of Tritrant in ml	Result in mg/l	RL in mg/l
MB GN 94251-MB1	Y	23:57 ✓	1	100	0.00	0.02	0.02	0.02	0.1
1 - B1 ✓	Y		1	100	0.02	0.97	0.95	0.99 ✓	
JC86426-1 ✓ ~~DUP~~	Y		1	100	0.00	0.02	0.02	0.02 ✓	
2 DUP ✓	Y		1	100	0.02	0.04	0.02	0.02 ✓	
3 JC86512-8 ✓	Y		1	100	0.04	0.09	0.05	0.05 ✓	
4 LCO ✓	Y	00:14	1	100	0.09	0.12	0.03	0.03 ✓	
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

All strikeouts must be initialed, dated, and reason applied if not transcription error

ANALYST: MO DATE: 4/17/19 QC REVIEW: ✓ DATE: 4/22/19
COMMENTS:

File Name: GN118-03
Rev. Date: 2/28/18

13.6 13

SGS

Reagent Information Log - TRC Total Residual Chlorine

GN94251

Reagent	Reagent # or Manufacturer/Lot	Exp. Date
Phosphate Buffer	GNE3-57472-TRC	6/11/19
N,N-Diethyl-P-Phenylene Diamine DPD Indicator	GNE3-57473-TRC	6/11/19
Potassium Iodide, KI, Crystals	Acros A037 2082	3-9-22
Barium diphenyl aminesulfonate	RICCA 1807569	7-30-19
Standard FAS	GNE4-57791-TRC	5/17/19
TRC BSP	GNE4-57710-TRC	5/17/19
Conc H_2SO_4	Fisher 154771	11-2-19
potassium dichromate 0.01N	RICCA 2802911	2-28-20

Form: GN087A74-03
Rev. Date: 2/27/18

13.6 13

SGS

Test: Sulfide by Titration
Product: S
Method: (AQ) SM4500 S2 B, C, or F-11

Units: mg/l / mg/kg

Analyst: MRP
GN Batch ID: GN94263
GP Batch ID:
Date: 4/18/2019

Sulfide= ((Vi)(Ni) - (Vt)(Nt)) x 16000 x final Vol. / Vol titrated x initial wt or vol

Form: AGN-SULFIDE-AQ-04

Iodine reagent number: see attached page

Iodine Normality = Normality x vol of sodium thiosulfate / volume of iodine

Normality 1 = 0.0253
Normality 2 = 0.0253
Average = 0.025315

Sodium thiosulfate manufacturer and lot: see attached page
Normality = 0 0249

QC Summary:

Method Blank ID:	GN94263-MB1	Date:	4/18/2019	Result	<2	<DL:	y	Units
Spike Blank ID:	GN94263-B1	Date:	4/18/2019	Amt Spiked	4.88	Result:	4.88	% Rec: 100 %
Matrix Spike ID:	JC86426-1	MS Result	2.84	Samp Result	<2	Spike Amt.	3.31	Rec: 86.0
Duplicate ID:	JC86512-8	Samp Result:	<2	Dup Result:	<2	% RPD:		

Bottle #	Sample ID	Initial pH	Pre-Treat? Y or N	Initial Vol (ml)	Final Vol. (ml)	Sample Vol Titrated in ml (a)	Volume of Iodine in ml	Sodium Thiosulfate volume (start) ml	Sodium Thiosulfate volume (end) ml	Sodium Thiosulfate total vol in ml	Result	Final Result	Detection Limit (mg/l)	Units
	Iodine Standardization 1	>9	n	1.0	200.0	200.0	6.00	0.00	6.10	6.10	NA	NA	NA	NA
	Iodine Standardization 2	>9	n	1.0	200.0	200.0	6.00	0.00	6.10	6.10	NA	NA	NA	NA
	Sulfide Stock Std 1CONF	>9	y	1.0	200.0	200.0	6.00	0.00	3.65	3.65	976.080	976.08	2	mg/l
	Sulfide Stock Std 2CONF	>9	y	1.0	200.0	200.0	6.00	0.00	3.65	3.65	976.080	976.08	2	mg/l
	GN94263-MB1	>9	y	200.0	200.0	200.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
	GN94263-B1	>9	y	200.0	200.0	200.0	6.00	0.00	3.65	3.65	4.880	4.88	2	mg/l
	GN94263-B2	>9	y	200.0	200.0	200.0	6.00	0.00	1.30	1.30	9.562	9.56	2	mg/l
9	GN94263-S1	>9	y	295.0	295.0	295.0	6.00	0.00	4.00	4.00	2.836	2.84	2	mg/l
11	GN94263-D1	>9	y	290.0	290.0	290.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
10	JC86426-1	>9	y	290.0	290.0	290.0	6.00	0.00	6.70	6.70	-0.824	<2	2	mg/l
10	JC86512-8	>9	y	290.0	290.0	290.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
8	JC86512-10	>9	y	290.0	290.0	290.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
3	JC86511-1	>9	y	290.0	290.0	290.0	6.00	0.00	5.85	5.85	0.343	<2	2	mg/l
4	JC86511-2	>9	y	290.0	290.0	290.0	6.00	0.00	5.95	5.95	0.206	<2	2	mg/l
3	JC86511-3	>9	y	300.0	300.0	300.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
3	JC86511-4	>9	y	295.0	295.0	295.0	6.00	0.00	5.90	5.90	0.270	<2	2	mg/l
3	JC86511-5	>9	y	295.0	295.0	295.0	6.00	0.00	5.95	5.95	0.203	<2	2	mg/l
3	JC86511-6	>9	y	295.0	295.0	295.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
3	JC86511-7	>9	y	300.0	300.0	300.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
3	JC86511-8	>9	y	290.0	290.0	290.0	6.00	0.00	6.20	6.20	-0.137	<2	2	mg/l
3	JC86511-9	>9	y	300.0	300.0	300.0	6.00	0.00	6.00	6.00	0.133	<2	2	mg/l
3	JC86511-10	>9	y	290.0	290.0	290.0	6.00	0.00	5.90	5.90	0.275	<2	2	mg/l
3	JC86511-11	>9	y	295.0	295.0	295.0	6.00	0.00	6.15	6.15	-0.068	<2	2	mg/l
3	JC86511-12	>9	y	290.0	290.0	290.0	6.00	0.00	6.15	6.15	-0.069	<2	2	mg/l
	JC82168-8E	>9	y	200.0	200.0	200.0	6.00	0.00	2.70	2.70	6.773	6.77	2	mg/l
4	JC86534-1	>9	y	290.0	290.0	290.0	6.00	0.00	6.05	6.05	0.069	<2	2	mg/l
4	JC86534-2	>9	y	290.0	290.0	290.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
4	JC86534-3	>9	y	290.0	290.0	290.0	6.00	0.00	6.00	6.00	0.137	<2	2	mg/l
4	JC86534-4	>9	y	280.0	280.0	280.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l

$B_1 \leftarrow B_2 \rightarrow$ 1ml of 976.08 PPM → 200ml DI/DW → 1-V: 4.88 x 2 = 9.76 mg/l

MS → JC 86426-1
Dup → JC 86512-8
} Both sample are dec + colorless

Analyst MRP Date: 4/18/19 QC Reviewer Date 4/19/19

gn 94263

Reagent Information Log - Sulfide

Reagent	Reagent # or Manufacturer/Lot
Hydrochloric Acid, 6N	GNE2-57107 -SREAC XP 8/1/19
Standard Iodine Solution 0.0250N	GNE2-57176-SULFIDE XP 8/7/19
Sodium Thiosulfate Solution 0.0251N	GNE3-57406-SULFIDE XP 9/2/19
Starch Indicator Solution	gne12-56667-sreac xp7/2020
Zinc Acetate Solution	GNE1-57028-SULFIDE XP7/24/19
Sodium Hydroxide, 6N	GNE11-56360-SULFIDE XP:5/5/19
Sulfide Stock Solution, 1000 ug/ml	GNE4-57776-SULFIDE XP4/23/19
pH Paper	Hydrion 223016 8/15/2019

All standards and stocks were made as described in the SOP for this method (circle one): Y or N
If no (N), see attached page for standards prep.

Form: GN087A-61
Rev. Date:4/18/2019

13.7 13

SGS

Pipette ID Class A

Balance ID

Sulfide Ext

Analyst

Product Sulfide

Prep Date 4/18/19

Batch ID

Sample Prep Log

Sample ID	Initial Sample Amount	Final Volume
P274-071	10 ml	1000 ml DI H_2O

Form: GN166-02
Rev. Date: 8/5/05

QC Review

ERA
A Waters Company

Instructions for Catalog #.071
Sulfide
Revision 030512

Description:
- This standard is packaged in a 10 mL flame-sealed ampule containing approximately 11 mL of standard concentrate.
- The concentrate will contain a noticeable white precipitate, which is a function of the preservation technique.
- This concentrate is preserved with sodium hydroxide and zinc acetate.
- The concentrate should be stored at 4±2°C.
- This product is intended to be used as a quality control check of the entire analytical process for the analytes/matrix included in the standard.
- The dilution instructions below represent the minimum suggested sample size for this product. Using a smaller sample size may invalidate the assigned value and/or uncertainty shown on the certificate of analysis.

Helpful Hints:
- This standard has been prepared as a concentrate and must be diluted prior to analysis.
- As the diluted standard is not stable, it must be analyzed **immediately** after the concentrate is diluted.

Instructions:
1. Add 100-200 mL of deionized water to a clean 1000 mL class A volumetric flask.
2. Shake the Sulfide ampule to homogenize the contents.
3. Carefully snap the top off of the Sulfide ampule.
4. While the white precipitate is still in suspension, use a clean, dry, class A pipet to transfer 10 mL of the concentrate into the 1000 mL volumetric flask.
5. Dilute the flask to final volume with deionized water.
6. Cap the flask and mix well.
7. Immediately analyze the diluted sample by your normal procedures.
8. Report your results as mg/L for the diluted sample.

Safety:
ERA products may be hazardous and are intended for use by professional laboratory personnel trained in the competent handling of such materials. Responsibility for the safe use of these products rests entirely with the buyer and/or user. Material Safety Data Sheets (MSDS) for all ERA products are available by calling 1-800-372-0122.

ERA
A Waters Company

Reference Materials

▪ Certificate of Analysis ▪

Product:	WatR™ Pollution Sulfide
Catalog Number:	071
Lot No.	P274-071
Certificate Issue Date:	January 12, 2018
Expiration Date:	March 31, 2021
Revision Number:	Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #071 revision 030512.

CERTIFICATION

Parameter	Certified Value[1]	Uncertainty[2]	QC Performance Acceptance Limits[3]	PT Performance Acceptance Limits[4]
	mg/L	%	mg/L	mg/L
Sulfide	8.09	10.0	3.91 - 10.5	3.92 - 11.5

ANALYTICAL VERIFICATION

Parameter	Certified Value[1]	Proficiency Testing Study			NIST Traceability	
		Mean	Recovery[5]	n	SRM Number	Recovery
	mg/L	mg/L	%			%
Sulfide	8.09	7.30	90.3	7	-	-

16341 Table Mountain Pkwy ▪ Golden, CO 80403 ▪ T: 800.372.0122 ▪ 303.431.8454 ▪ www.eraqc.com

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: 219041901.TXT
Analyst: NV

Date Analyzed: 04/19/19
Run ID: GN94318

Methods: EPA 300/SW846 9056A

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: NV Date 4/20/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date 4/22/19

13.8
13

Sequence: 219041901
Operator: chemistry

Printed: 4/20/2019 9:14:43 AM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\APRIL
Timebase: ACCUTEST_SYS#2
#Samples: 50

GN94318

Created: 4/19/2019 9:19:27 AM by chemistry
Last Update: 4/19/2019 3:04:23 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
1	BLANKCONF	1		Unknown	20.0	1.0000	Finished	4/19/2019 9:26:08 AM
2	STDA	2		Standard	20.0	1.0000	Finished	4/14/2019 4:39:11 PM
3	STDB	3		Standard	20.0	1.0000	Finished	4/14/2019 5:03:06 PM
4	STDC	4		Standard	20.0	1.0000	Finished	4/14/2019 5:27:01 PM
5	STDCD	5		Standard	20.0	1.0000	Finished	4/14/2019 5:50:57 PM
6	STDD	6		Standard	20.0	1.0000	Finished	4/14/2019 6:14:52 PM
7	STDDE	7		Standard	20.0	1.0000	Finished	4/14/2019 6:38:47 PM
8	STDE	8		Standard	20.0	1.0000	Finished	4/14/2019 7:02:43 PM
9	STDF	9		Standard	20.0	1.0000	Finished	4/14/2019 7:26:39 PM
10	STDG	10		Standard	20.0	1.0000	Finished	4/14/2019 7:50:35 PM
11	ICV	2		Unknown	20.0	1.0000	Finished	4/19/2019 9:49:37 AM
12	CCV	3		Unknown	20.0	1.0000	Finished	4/19/2019 10:13:33 AM
13	CCB	4		Unknown	20.0	1.0000	Finished	4/19/2019 10:37:28 AM
14	MBSO	5		Unknown	20.0	1.0000	Finished	4/19/2019 11:01:24 AM
15	BSPSO	6		Unknown	20.0	1.0000	Finished	4/19/2019 11:25:20 AM
16	JC85833-3	7		Unknown	20.0	3.0000	Finished	4/19/2019 12:01:51 PM
17	JC85833-3A	8		Unknown	20.0	3.0000	Finished	4/19/2019 12:25:24 PM
18	MB	9		Unknown	20.0	1.0000	Finished	4/19/2019 12:49:20 PM
19	BSP	10		Unknown	20.0	1.0000	Finished	4/19/2019 1:13:15 PM
20	GP20698-S1	11	JC86397-1	Unknown	20.0	2.0000	Finished	4/19/2019 1:37:10 PM
21	JC86397-3	12		Unknown	20.0	10.0000	Finished	4/19/2019 2:01:07 PM
22	JC86426-1	13		Unknown	20.0	1.0000	Finished	4/19/2019 2:25:02 PM
23	GP20737-S1	14		Unknown	20.0	1.0000	Finished	4/19/2019 2:48:58 PM
24	CCV	15		Unknown	20.0	1.0000	Finished	4/19/2019 3:12:54 PM
25	CCB	16		Unknown	20.0	1.0000	Finished	4/19/2019 3:36:49 PM
26	GP20737-D1	17	JC86512-8	Unknown	20.0	1.0000	Finished	4/19/2019 4:00:45 PM
27	JC86512-8	18		Unknown	20.0	1.0000	Finished	4/19/2019 4:24:40 PM
28	GP20737-S2	19	JC86512-10	Unknown	20.0	1.0000	Finished	4/19/2019 4:48:35 PM
29	JC86512-10	20		Unknown	20.0	1.0000	Finished	4/19/2019 5:12:31 PM
30	JC86487-1	21		Unknown	20.0	1.0000	Finished	4/19/2019 5:36:27 PM
31	JC86487-2	22		Unknown	20.0	1.0000	Finished	4/19/2019 6:00:22 PM
32	JC86514-1	23		Unknown	20.0	1.0000	Finished	4/19/2019 6:24:17 PM
33	JC86511-1	24		Unknown	20.0	1.0000	Finished	4/19/2019 6:48:14 PM
34	JC86511-2	25		Unknown	20.0	1.0000	Finished	4/19/2019 7:12:09 PM
35	JC86511-3	26		Unknown	20.0	1.0000	Finished	4/19/2019 7:36:04 PM
36	CCV	27		Unknown	20.0	1.0000	Finished	4/19/2019 8:00:00 PM
37	CCB	28		Unknown	20.0	1.0000	Finished	4/19/2019 8:23:55 PM
38	JC86511-4	29		Unknown	20.0	1.0000	Finished	4/19/2019 8:47:50 PM
39	JC86511-5	30		Unknown	20.0	1.0000	Finished	4/19/2019 9:11:45 PM
40	JC86511-6	31		Unknown	20.0	1.0000	Finished	4/19/2019 9:35:41 PM
41	JC86511-7	32		Unknown	20.0	1.0000	Finished	4/19/2019 9:59:37 PM
42	JC86511-8	33		Unknown	20.0	1.0000	Finished	4/19/2019 10:23:33 PM

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

13.8
13

Sequence: 219041901
Operator: chemistry

Printed: 4/20/2019 9:14:49 AM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\APRIL
Timebase: ACCUTEST_SYS#2
#Samples: 50

Created: 4/19/2019 9:19:27 AM by chemistry
Last Update: 4/19/2019 3:04:23 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
43	JC86511-9	34		Unknown	20.0	1.0000	Finished	4/19/2019 10:47:28 PM
44	JC86511-10	35		Unknown	20.0	1.0000	Finished	4/19/2019 11:11:24 PM
45	JC86511-11	36		Unknown	20.0	1.0000	Finished	4/19/2019 11:35:20 PM
46	JC86511-12	37		Unknown	20.0	1.0000	Finished	4/19/2019 11:59:16 PM
47	JC86426-1	41		Unknown	20.0	2.0000	Finished	4/20/2019 12:23:11 AM
48	CCV	38		Unknown	20.0	1.0000	Finished	4/20/2019 12:47:07 AM
49	CCB	39		Unknown	20.0	1.0000	Finished	4/20/2019 1:11:03 AM
50	STANDBY	40		Unknown	20.0	1.0000	Finished	4/20/2019 1:34:57 AM

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 219041901
Operator: chemistry

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\APRIL
Timebase: ACCUTEST_SYS#2
#Samples: 49

GN94318

Created: 4/19/2019 9:19:27 AM by chemistry
Last Update: 4/19/2019 12:09:10 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
1	BLANKCONF	1		Unknown	20.0	1.0000	Finished	4/19/2019 9:26:08 AM
2	STDA	2		Standard	20.0	1.0000	Finished	4/14/2019 4:39:11 PM
3	STDB	3		Standard	20.0	1.0000	Finished	4/14/2019 5:03:06 PM
4	STDC	4		Standard	20.0	1.0000	Finished	4/14/2019 5:27:01 PM
5	STDCD	5		Standard	20.0	1.0000	Finished	4/14/2019 5:50:57 PM
6	STDD	6		Standard	20.0	1.0000	Finished	4/14/2019 6:14:52 PM
7	STDDE	7		Standard	20.0	1.0000	Finished	4/14/2019 6:38:47 PM
8	STDE	8		Standard	20.0	1.0000	Finished	4/14/2019 7:02:43 PM
9	STDF	9		Standard	20.0	1.0000	Finished	4/14/2019 7:26:39 PM
10	STDG	10		Standard	20.0	1.0000	Finished	4/14/2019 7:50:35 PM
11	ICV	2		Unknown	20.0	1.0000	Finished	4/19/2019 9:49:37 AM
12	CCV	3		Unknown	20.0	1.0000	Finished	4/19/2019 10:13:33 AM
13	CCB	4		Unknown	20.0	1.0000	Finished	4/19/2019 10:37:28 AM
14	MBSO	5		Unknown	20.0	1.0000	Finished	4/19/2019 11:01:24 AM
15	BSPSO	6		Unknown	20.0	1.0000	Finished	4/19/2019 11:25:20 AM
	JC85833-3	7		Unknown	20.0	3.0000	Running	4/19/2019 12:01:51 PM
17	JC85833-3A	8		Unknown	20.0	3.0000	Single	4/19/2019 12:01:33 PM
18	MB	9		Unknown	20.0	1.0000	Single	4/19/2019 12:01:38 PM
19	BSP	10		Unknown	20.0	1.0000	Single	
20	GP20698-S1	11	JC86397-1	Unknown	20.0	2.0000	Single	
21	JC86397-3	12		Unknown	20.0	10.0000	Single	
22	JC86426-1	13		Unknown	20.0	1.0000	Single	
23	GP20737-S1	14		Unknown	20.0	1.0000	Single	
24	CCV	15		Unknown	20.0	1.0000	Single	
25	CCB	16		Unknown	20.0	1.0000	Single	
26	GP20737-D1	17	JC86512-8	Unknown	20.0	1.0000	Single	
27	JC86512-8	18		Unknown	20.0	1.0000	Single	
28	GP20737-S2	19	JC86512-10	Unknown	20.0	1.0000	Single	
29	JC86512-10	20		Unknown	20.0	1.0000	Single	
30	JC86487-1	21		Unknown	20.0	1.0000	Single	
31	JC86487-2	22		Unknown	20.0	1.0000	Single	
32	JC86514-1	23		Unknown	20.0	1.0000	Single	
33	JC86511-1	24		Unknown	20.0	1.0000	Single	
34	JC86511-2	25		Unknown	20.0	1.0000	Single	
35	JC86511-3	26		Unknown	20.0	1.0000	Single	
36	CCV	27		Unknown	20.0	1.0000	Single	
37	CCB	28		Unknown	20.0	1.0000	Single	
38	JC86511-4	29		Unknown	20.0	1.0000	Single	
39	JC86511-5	30		Unknown	20.0	1.0000	Single	
40	JC86511-6	31		Unknown	20.0	1.0000	Single	
41	JC86511-7	32		Unknown	20.0	1.0000	Single	
42	JC86511-8	33		Unknown	20.0	1.0000	Single	

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 219041901
Operator: chemistry

Printed: 4/19/2019 12:08:37 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\APRIL
Timebase: ACCUTEST_SYS#2
#Samples: 49

Created: 4/19/2019 9:19:27 AM by chemistry
Last Update: 4/19/2019 12:08:29 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
43	JC86511-9	34		Unknown	20.0	1.0000	Single	
44	JC86511-10	35		Unknown	20.0	1.0000	Single	
45	JC86511-11	36		Unknown	20.0	1.0000	Single	
46	JC86511-12	37		Unknown	20.0	1.0000	Single	
47	CCV	38		Unknown	20.0	1.0000	Single	
48	CCB	39		Unknown	20.0	1.0000	Single	
49	STANDBY	40		Unknown	20.0	1.0000	Single	

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

SGS

Analyst NV

Product CNI

Pipette ID 42

Prep Date 4/19/19

Balance ID NA

Batch ID GN94318

Sample Prep Log

Sample ID	Initial Sample Amount	Final Volume (mL)
BSP	0.5mL of spiking solution	50
GP20737-S1	0.5mL of spiking solution	50 JC86512-8
GP20737-S2	0.5mL of spiking solution	50 JC86512-16

Form: GN166-02
Rev. Date: 8/5/05

QC Review

Analyst NV Product Cnl Autopipette # 42

Date 4/19/19 Batch ID GN94318 Class A Vol. Flask

Sample Dilution Prep Log

Sample ID	Dilution	Initial Volume	Final Volume	Comments
GP20648-S1	1:2	NV 4/19/19 ~~to~~ 25	NV 4/19/19 ~~20~~ 50	Cnl JC86397-1 0.5mL spike
JC86397-3	1:10	5	50	Cnl
JC85833-3	1:3	10	30	F
JC85833-3A	1:3	10	30	F
JC86426-1	1:2	10	20	Cnl

Cl 4/19

Form: GN165-01
Rev. Date: 2/25/03

SGS

Reagent Information Log - IONC IC2 - Water /Soil

GN Batch ID#: GN94318

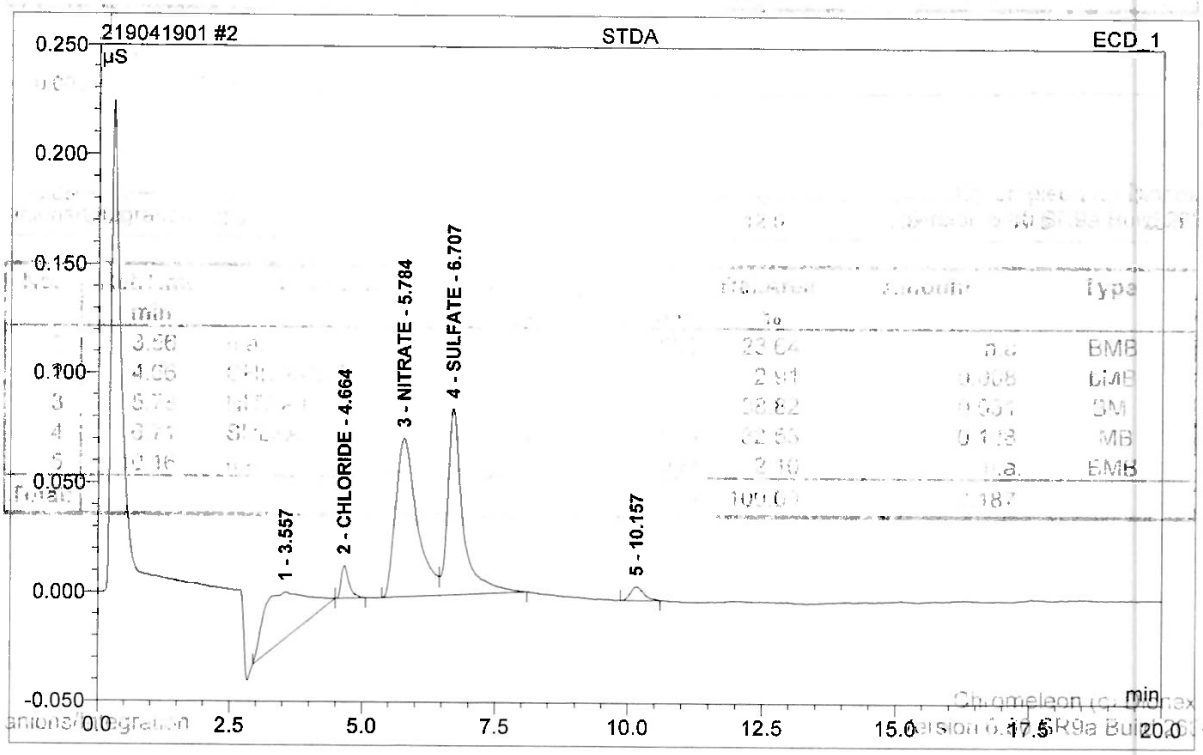
Reagent	Reagent # or Manufacturer/Lot	Exp. Date
Standard Intermediate (for Calibration Curve)	GN18-476-124	4/21/2019
Standard Intermediate (for Calibration Curve)	GN18-476-126	4/21/2019
ICV	GN18-479-37	4/21/2019
Eluent	1804742445014	7/24/2020
Standard Intermediate (for Working std/Spikes)	GN18-476-124	4/21/2019
Standard Intermediate (for Working std/Spikes)	GN18-476-126	4/21/2019
CCV	GN19-493-13	4/21/2019
Spiking Solution Intermediate (CHL/SO4)	GN18-478-35	4/30/2019
Spiking Solution Intermediate (F/BRO)	GN18-478-36	4/30/2019
Spiking Solution (SOUP)	GN18-478-39	4/21/2019
Filter lot numbers	GREENWOOD #180111044	NA

Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error

Form : GN087A-76
Rev. Date: 4/7/09

2 STDA

Sample Name:	**STDA**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 16:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

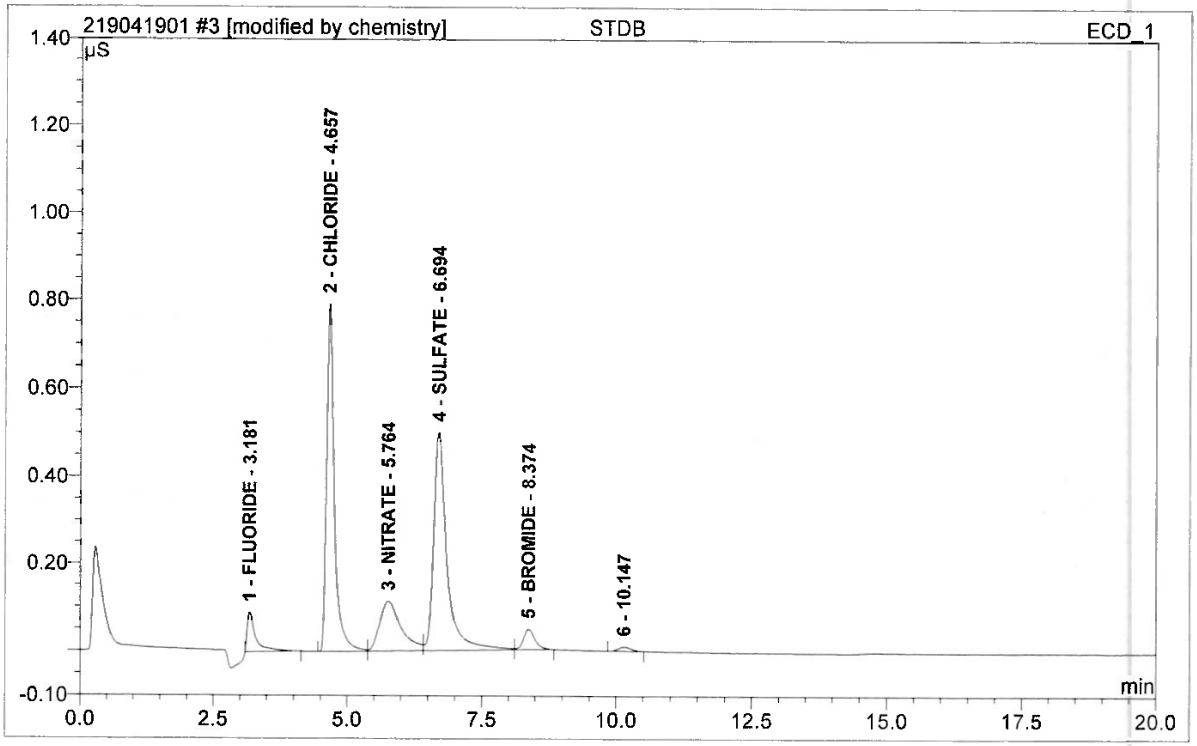


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.56	n.a.	0.021	0.020	23.64	n.a.	BMB
2	4.66	CHLORIDE	0.015	0.003	2.91	0.008	bMB
3	5.78	NITRATE	0.072	0.034	38.82	0.051	BM
4	6.71	SULFATE	0.085	0.028	32.53	0.128	MB
5	10.16	n.a.	0.006	0.002	2.10	n.a.	BMB
Total:			0.199	0.086	100.00	0.187	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

3 STDB

Sample Name:	**STDB**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 17:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.089	0.016	4.61	0.035	BMB*
2	4.66	CHLORIDE	0.792	0.133	37.24	0.448	BM *
3	5.76	NITRATE	0.112	0.052	14.40	0.078	M *
4	6.69	SULFATE	0.500	0.142	39.75	0.646	M *
5	8.37	BROMIDE	0.046	0.012	3.25	0.094	MB*
6	10.15	n.a.	0.010	0.003	0.75	n.a.	BMB
Total:			1.549	0.358	100.00	1.301	

PW
NV 4/30/19

anions/Integration

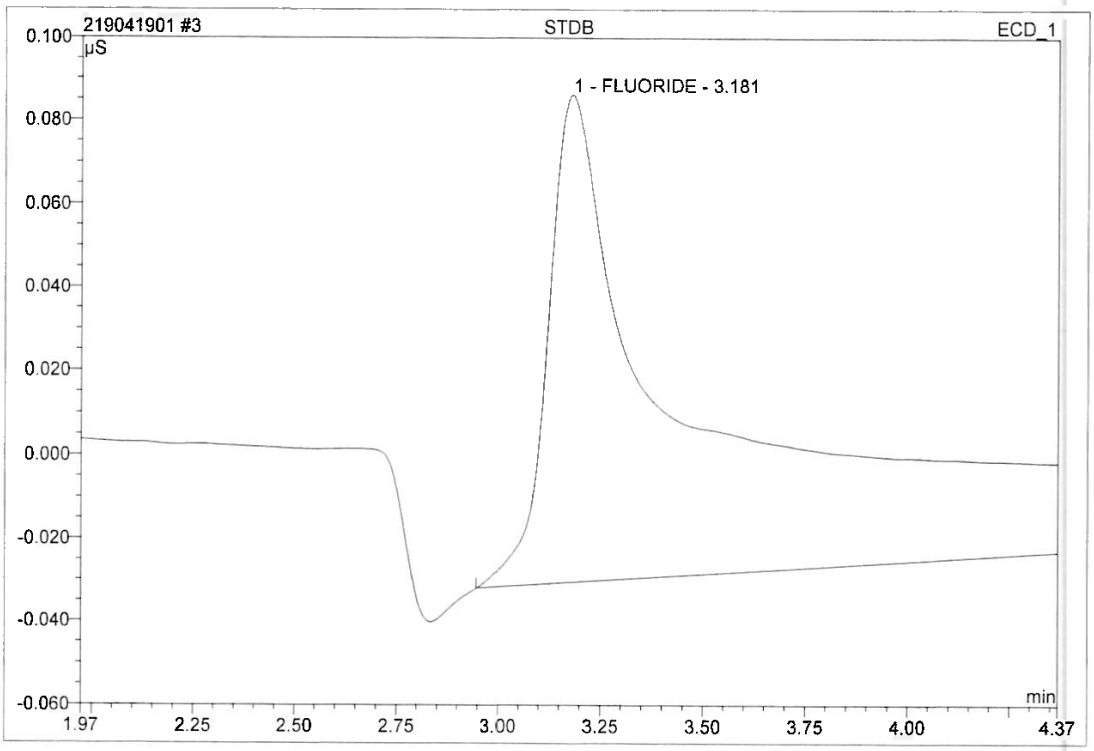
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

4/20/2019 9:26 AM

3 STDB

Sample Name:	**STDB**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 17:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.117	0.052	11.78	0.111	BM
2	4.66	CHLORIDE	0.812	0.150	34.28	0.505	M
3	5.76	NITRATE	0.127	0.066	15.05	0.100	M
4	6.69	SULFATE	0.510	0.155	35.33	0.703	M
5	8.37	BROMIDE	0.048	0.013	2.94	0.104	MB
6	10.15	n.a.	0.010	0.003	0.61	n.a.	BMB
Total:			1.624	0.438	100.00	1.522	

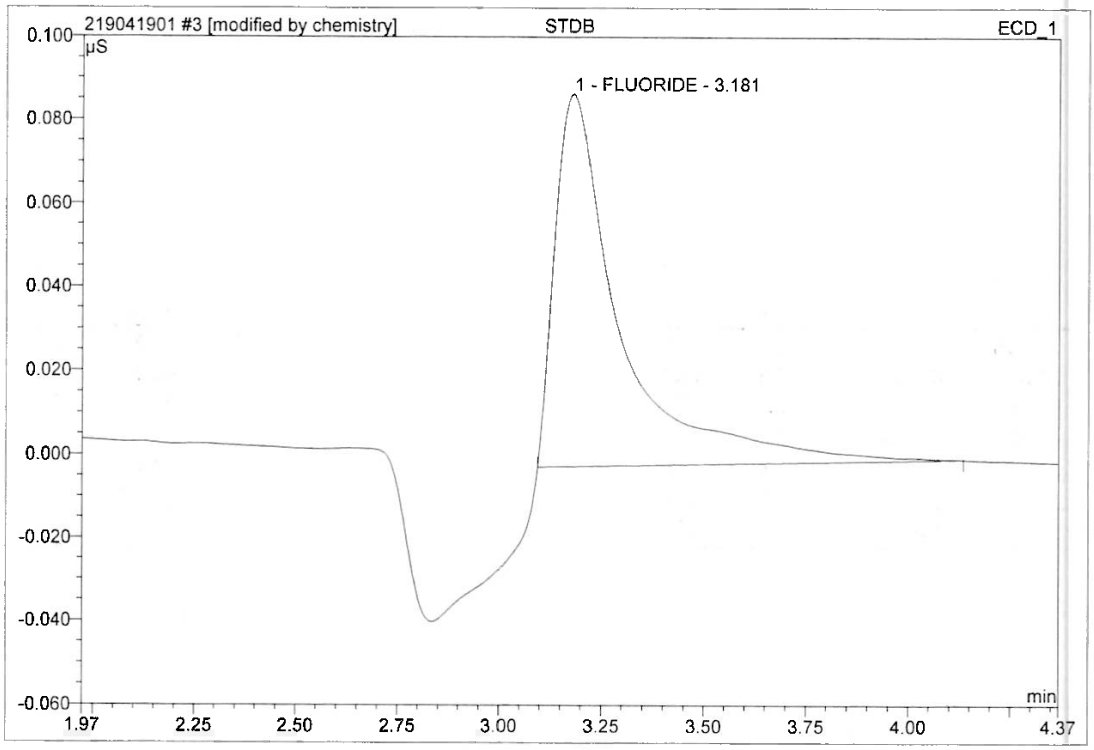
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

3 STDB

Sample Name:	**STDB**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 17:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



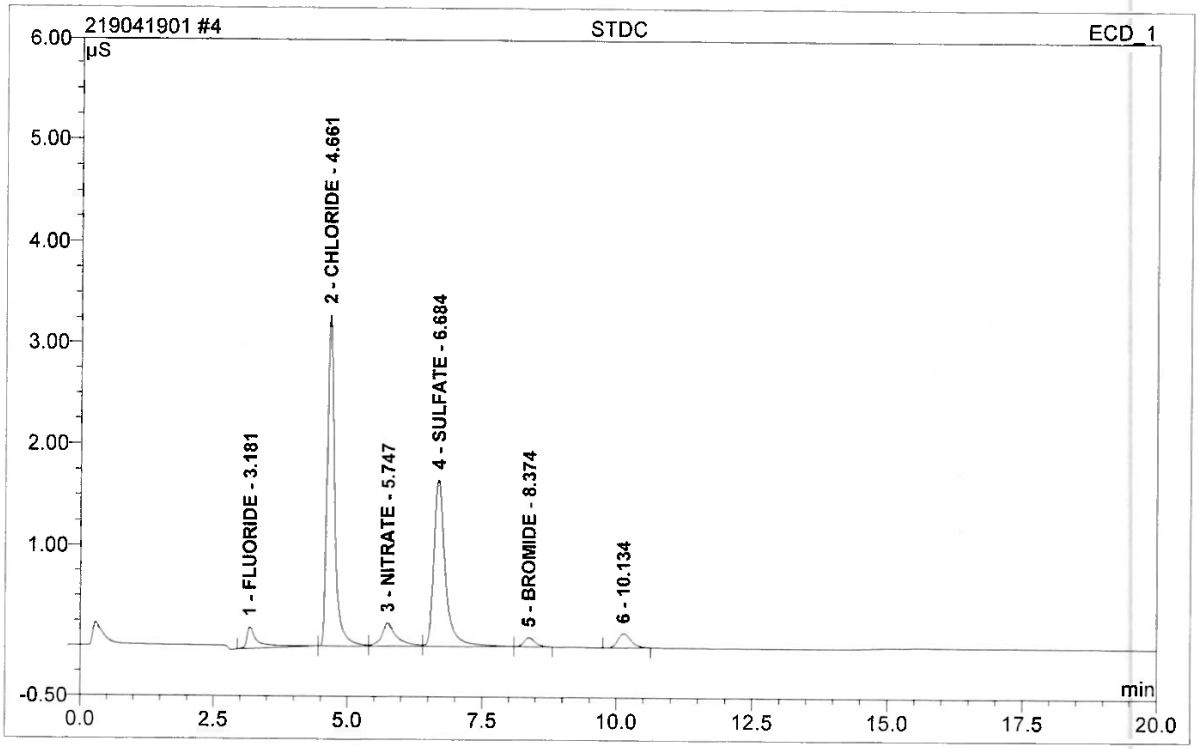
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.089	0.016	4.61	0.035	BMB*
2	4.66	CHLORIDE	0.792	0.133	37.24	0.448	BM *
3	5.76	NITRATE	0.112	0.052	14.40	0.078	M *
4	6.69	SULFATE	0.500	0.142	39.75	0.646	M *
5	8.37	BROMIDE	0.046	0.012	3.25	0.094	MB*
6	10.15	n.a.	0.010	0.003	0.75	n.a.	BMB
Total:			1.549	0.358	100.00	1.301	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

4 STDC

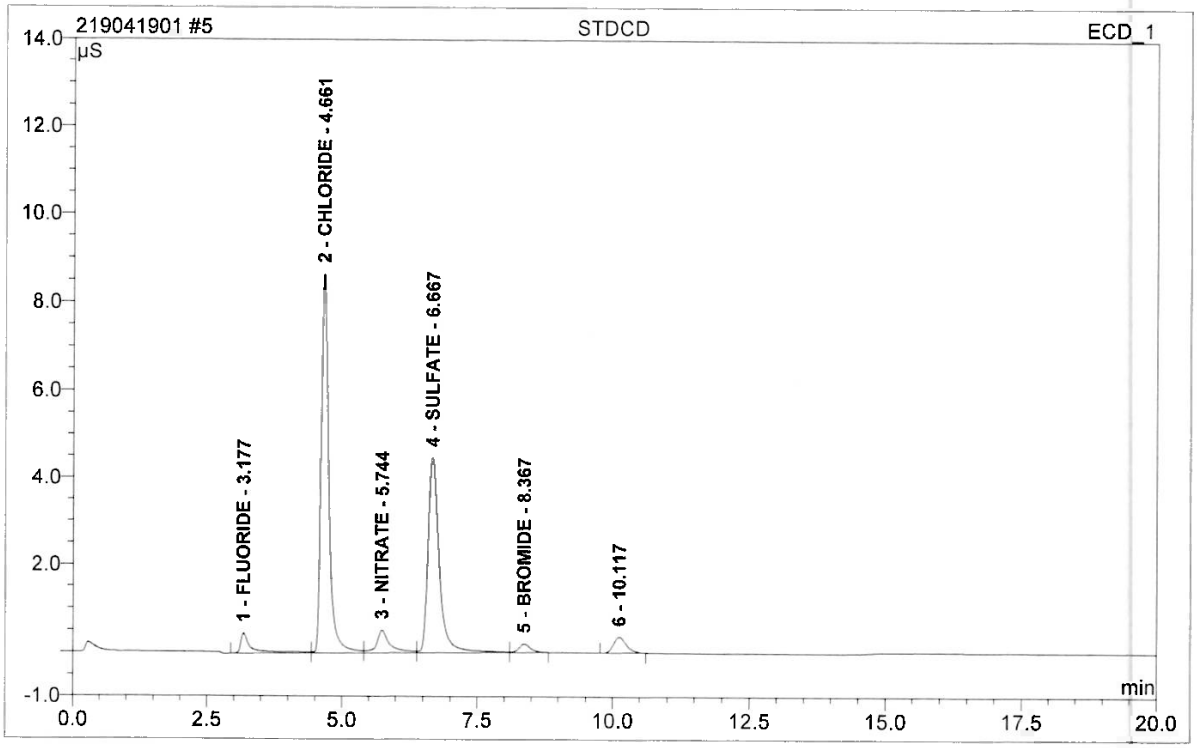
Sample Name:	**STDC**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 17:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.212	0.053	4.68	0.114	BMB
2	4.66	CHLORIDE	3.284	0.534	46.93	1.793	bM
3	5.75	NITRATE	0.232	0.075	6.61	0.114	M
4	6.68	SULFATE	1.657	0.414	36.39	1.879	M
5	8.37	BROMIDE	0.090	0.022	1.96	0.180	MB
6	10.13	n.a.	0.138	0.039	3.43	n.a.	BMB
Total:			5.612	1.138	100.00	4.081	

5 STDCD

Sample Name:	**STDCD**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 17:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

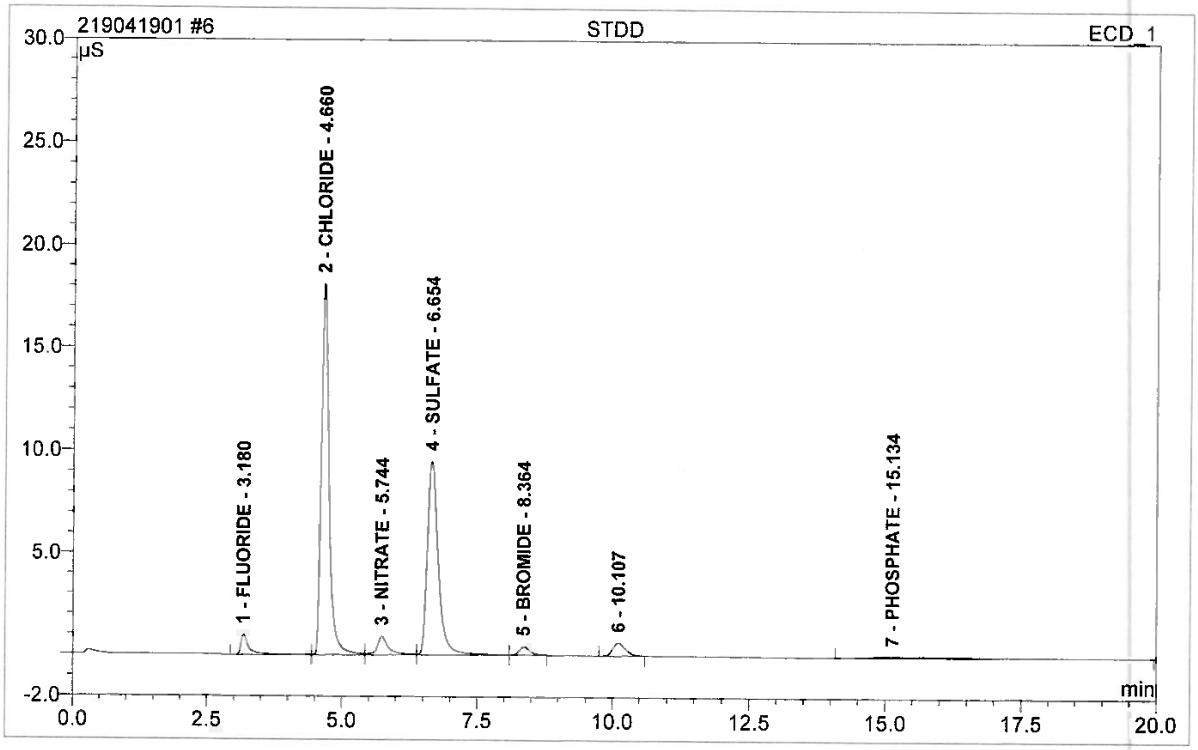


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.454	0.109	3.73	0.234	BM
2	4.66	CHLORIDE	8.651	1.433	49.21	4.813	M
3	5.74	NITRATE	0.512	0.146	5.01	0.221	M
4	6.67	SULFATE	4.483	1.077	36.97	4.887	M
5	8.37	BROMIDE	0.192	0.048	1.64	0.386	MB
6	10.12	n.a.	0.360	0.100	3.44	n.a.	BMB
Total:			14.652	2.912	100.00	10.541	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

6 STDD

Sample Name:	**STDD**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 18:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



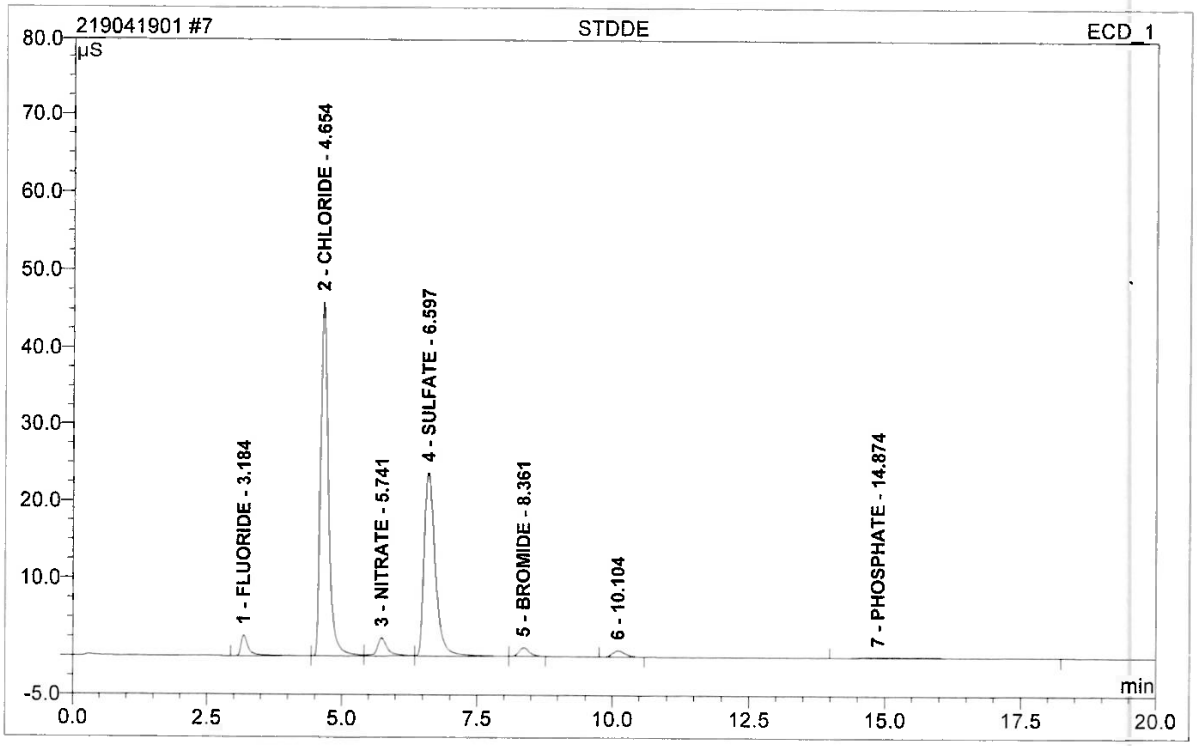
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.974	0.189	3.11	0.405	BM
2	4.66	CHLORIDE	18.131	3.014	49.73	10.124	M
3	5.74	NITRATE	0.902	0.225	3.72	0.342	M
4	6.65	SULFATE	9.505	2.241	36.98	10.172	M
5	8.36	BROMIDE	0.400	0.095	1.56	0.764	MB
6	10.11	n.a.	0.635	0.174	2.87	n.a.	BMB
7	15.13	PHOSPHATE	0.054	0.122	2.01	0.660	BMB
Total:			30.601	6.060	100.00	22.467	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

7 STDDE

Sample Name:	**STDDE**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 18:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

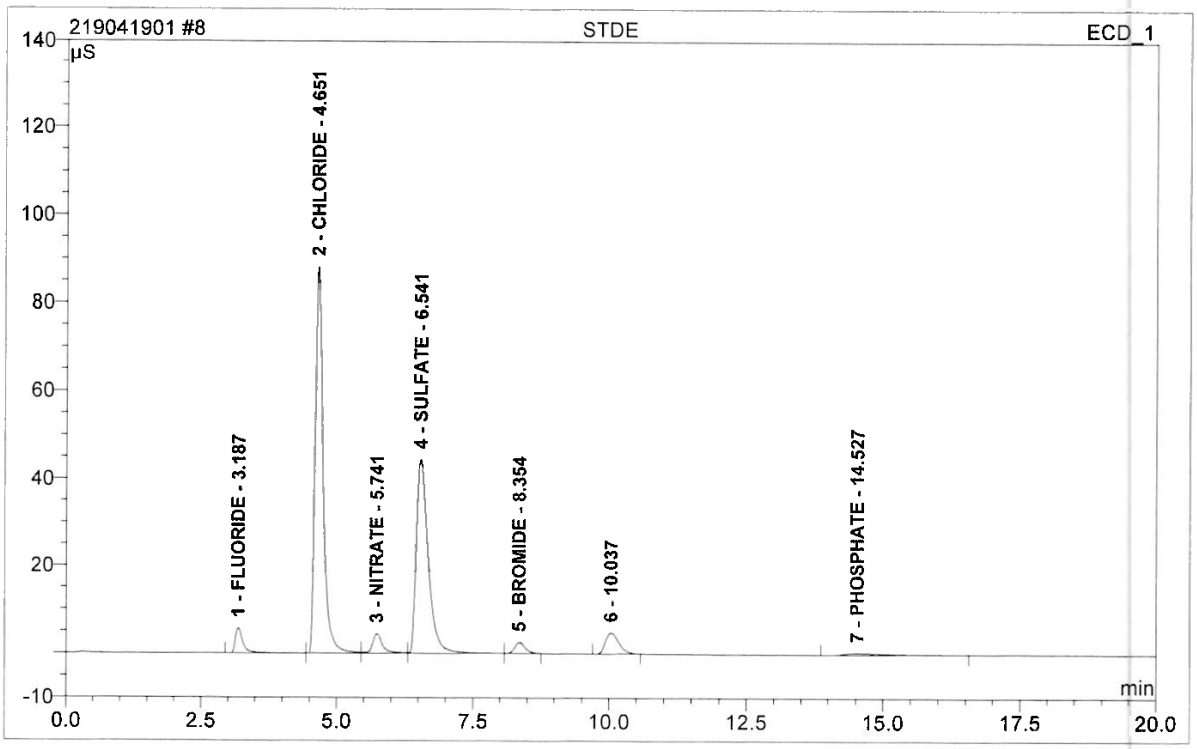


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	2.647	0.449	2.99	0.966	BM
2	4.65	CHLORIDE	45.904	7.708	51.35	25.892	M
3	5.74	NITRATE	2.369	0.543	3.61	0.822	M
4	6.60	SULFATE	23.748	5.663	37.72	25.701	M
5	8.36	BROMIDE	1.111	0.253	1.68	2.039	MB
6	10.10	n.a.	0.826	0.225	1.50	n.a.	BMB
7	14.87	PHOSPHATE	0.111	0.170	1.13	0.920	BMB
Total:			76.716	15.011	100.00	56.339	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

8 STDE

Sample Name:	**STDE**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 19:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



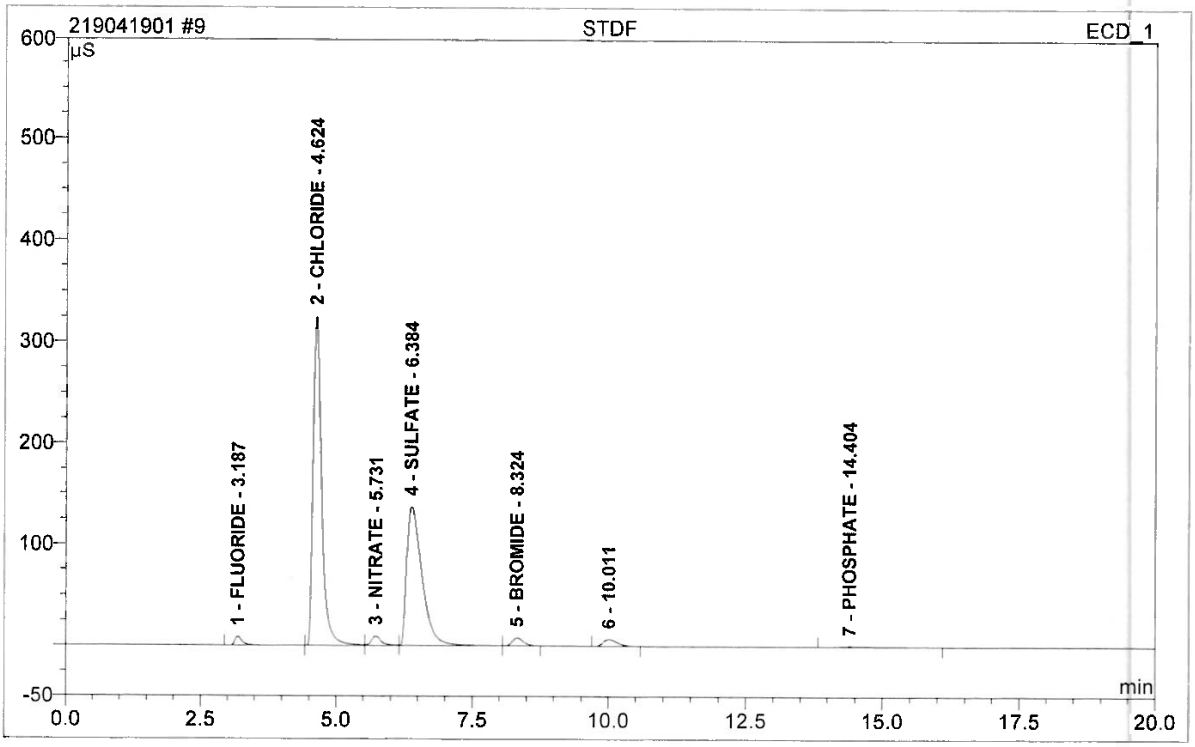
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	5.577	0.929	3.05	1.997	BM
2	4.65	CHLORIDE	88.047	15.171	49.78	50.959	M
3	5.74	NITRATE	4.356	0.937	3.08	1.420	M
4	6.54	SULFATE	44.379	11.182	36.69	50.751	M
5	8.35	BROMIDE	2.395	0.543	1.78	4.380	MB
6	10.04	n.a.	4.668	1.349	4.43	n.a.	BMB
7	14.53	PHOSPHATE	0.403	0.366	1.20	1.980	BMB
Total:			149.826	30.478	100.00	111.486	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

9 STDF

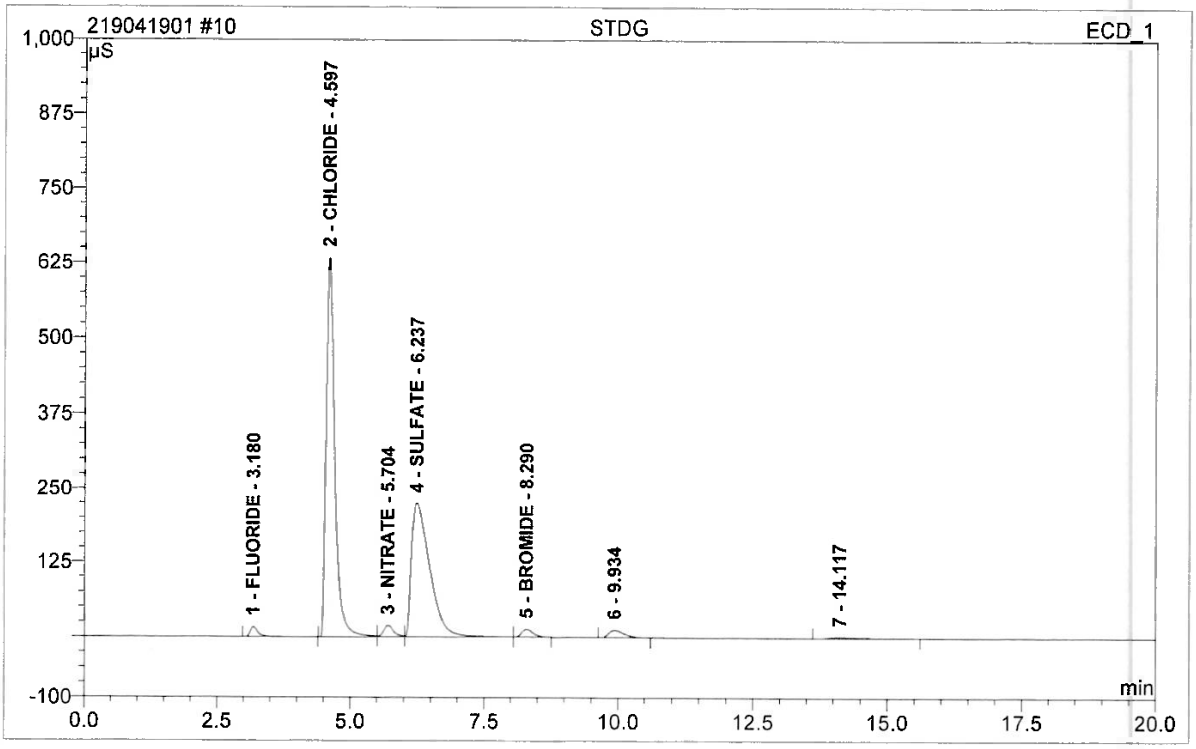
Sample Name:	**STDF**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 19:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	8.439	1.411	1.26	3.033	BMB
2	4.62	CHLORIDE	325.169	59.457	53.28	199.714	BM
3	5.73	NITRATE	9.330	1.997	1.79	3.026	M
4	6.38	SULFATE	137.050	44.364	39.75	201.355	Mb
5	8.32	BROMIDE	7.562	1.799	1.61	14.518	bMB
6	10.01	n.a.	6.673	2.015	1.81	n.a.	BMB
7	14.40	PHOSPHATE	0.715	0.556	0.50	3.006	BMB
Total:			494.937	111.599	100.00	424.651	

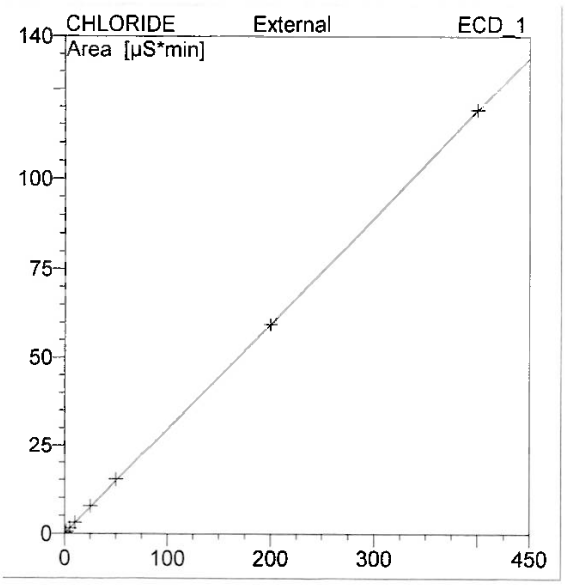
10 STDG

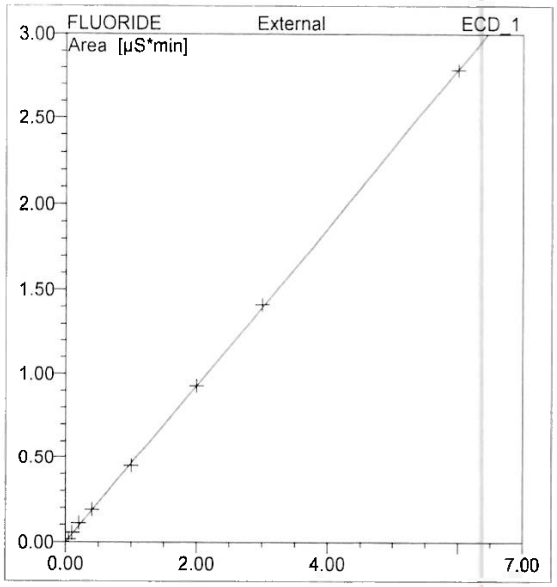
Sample Name:	**STDG**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 19:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

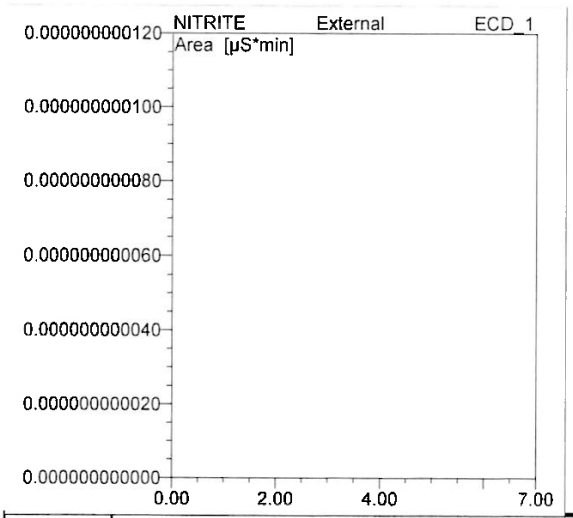


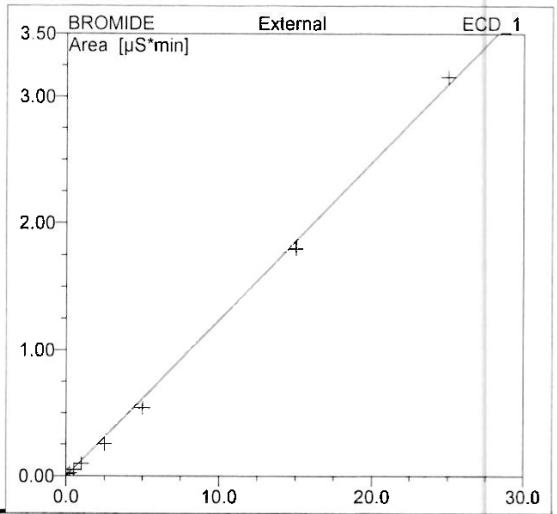
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	16.283	2.786	1.25	5.989	BMB
2	4.60	CHLORIDE	633.027	119.074	53.57	399.968	BM
3	5.70	NITRATE	18.714	4.100	1.84	6.212	M
4	6.24	SULFATE	225.054	87.951	39.57	399.182	Mb
5	8.29	BROMIDE	12.740	3.157	1.42	25.472	bMB
6	9.93	n.a.	12.140	4.028	1.81	n.a.	BMB
7	14.12	n.a.	1.714	1.171	0.53	n.a.	BMB
Total:			919.673	222.266	100.00	836.824	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901







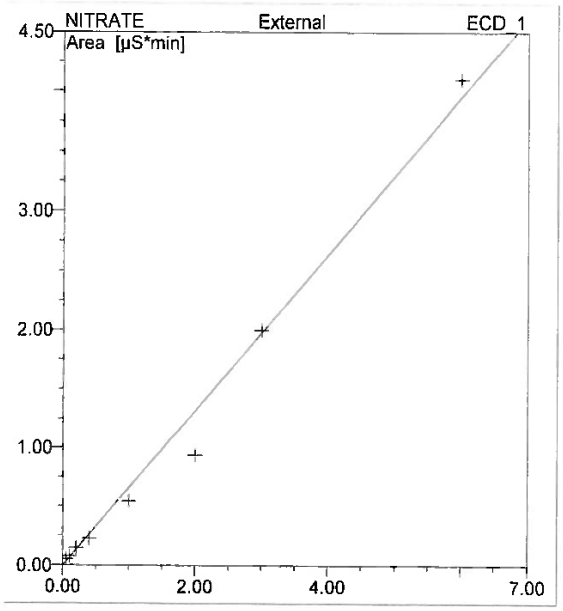


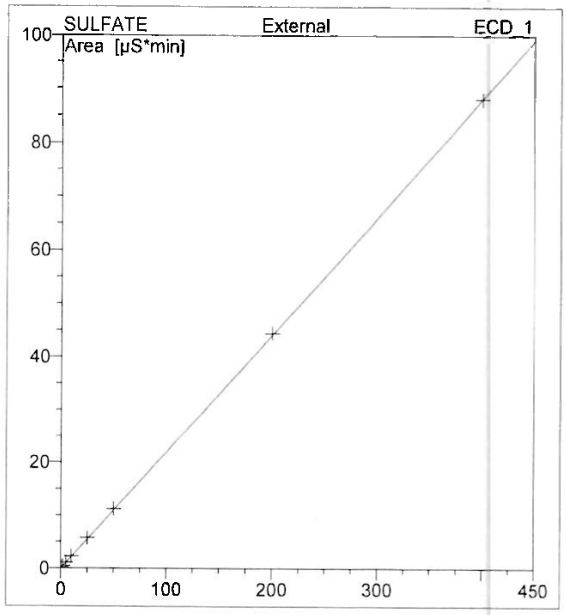
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.18	FLUORIDE	Lin	8	99.9936	0.0000	0.4652	0.0000
2	4.60	CHLORIDE	Lin	8	99.9994	0.0000	0.2977	0.0000
3	5.70	NITRATE	Lin	8	99.4303	0.0000	0.6599	0.0000
4	6.24	SULFATE	Lin	8	99.9990	0.0000	0.2203	0.0000
5	8.29	BROMIDE	Lin	8	99.9436	0.0000	0.1239	0.0000
6	9.93	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	14.12	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Average:					99.8732	0.0000	0.3534	0.0000

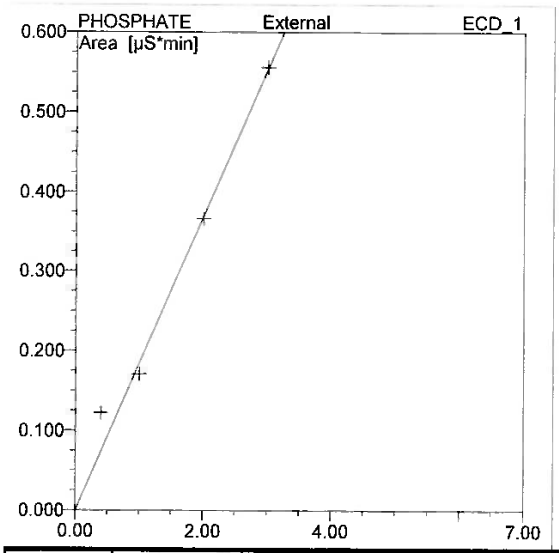
anions/Calibration(Curr.Peak)

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901





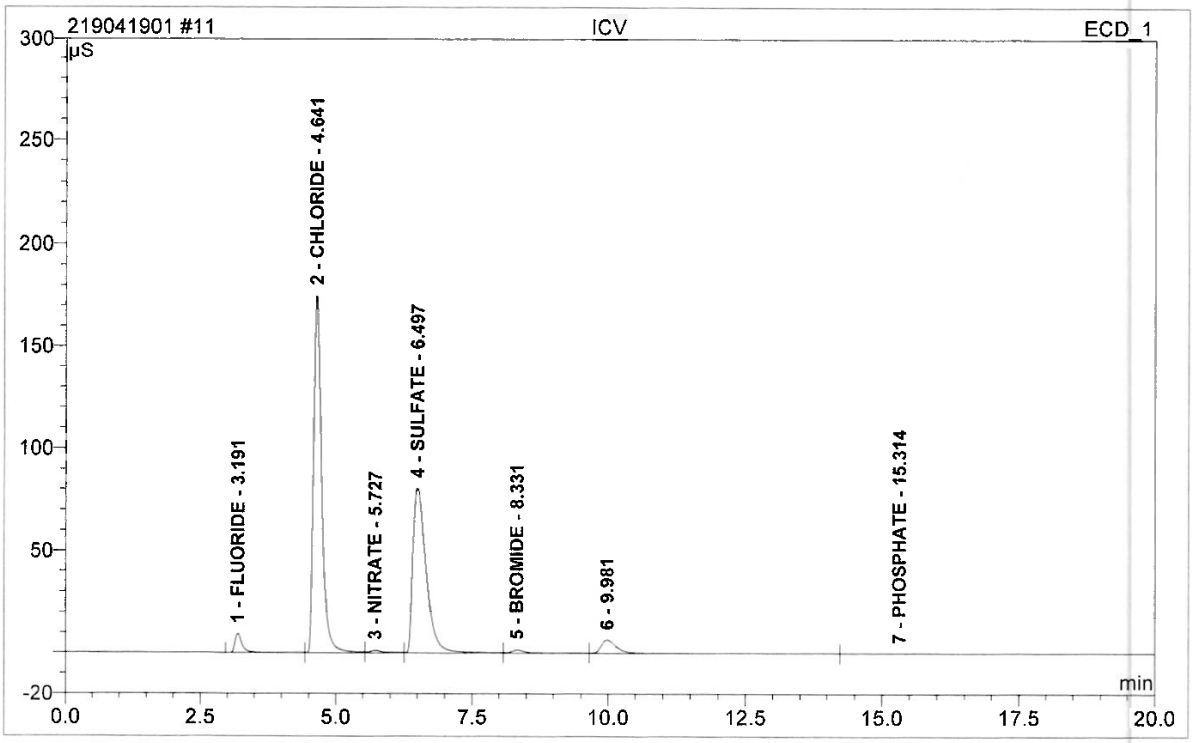


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.18	FLUORIDE	Lin	8	99.9936	0.0000	0.4652	0.0000
2	4.60	CHLORIDE	Lin	8	99.9994	0.0000	0.2977	0.0000
3	5.70	NITRATE	Lin	8	99.4303	0.0000	0.6599	0.0000
4	6.24	SULFATE	Lin	8	99.9990	0.0000	0.2203	0.0000
5	8.29	BROMIDE	Lin	8	99.9436	0.0000	0.1239	0.0000
6	9.93	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	14.12	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Average:					99.8732	0.0000	0.3534	0.0000

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

11 ICV

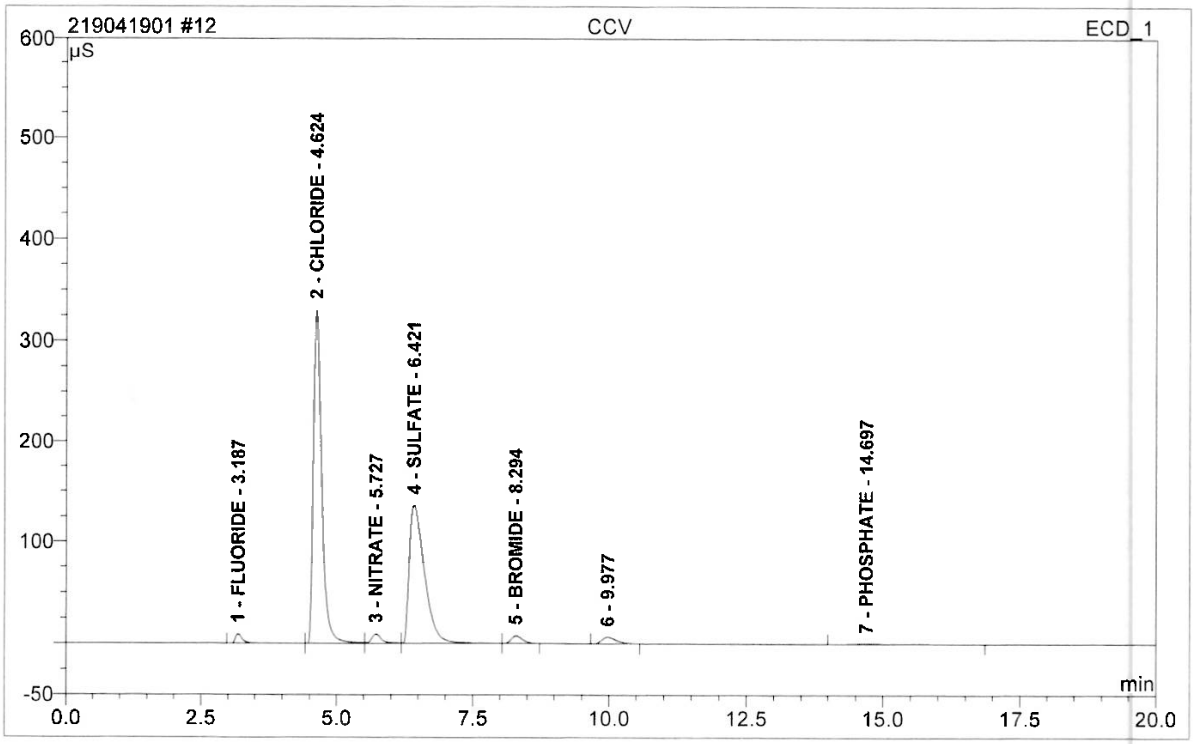
Sample Name:	**ICV**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 9:49**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	9.407	1.496	2.57	3.216	BM
2	4.64	CHLORIDE	174.871	30.440	52.19	102.249	M
3	5.73	NITRATE	1.261	0.380	0.65	0.576	M
4	6.50	SULFATE	80.682	22.873	39.21	103.812	M
5	8.33	BROMIDE	1.547	0.558	0.96	4.504	M
6	9.98	n.a.	6.587	2.374	4.07	n.a.	M
7	15.31	PHOSPHATE	0.067	0.205	0.35	1.110	MB
Total:			274.422	58.327	100.00	215.467	

12 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 10:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

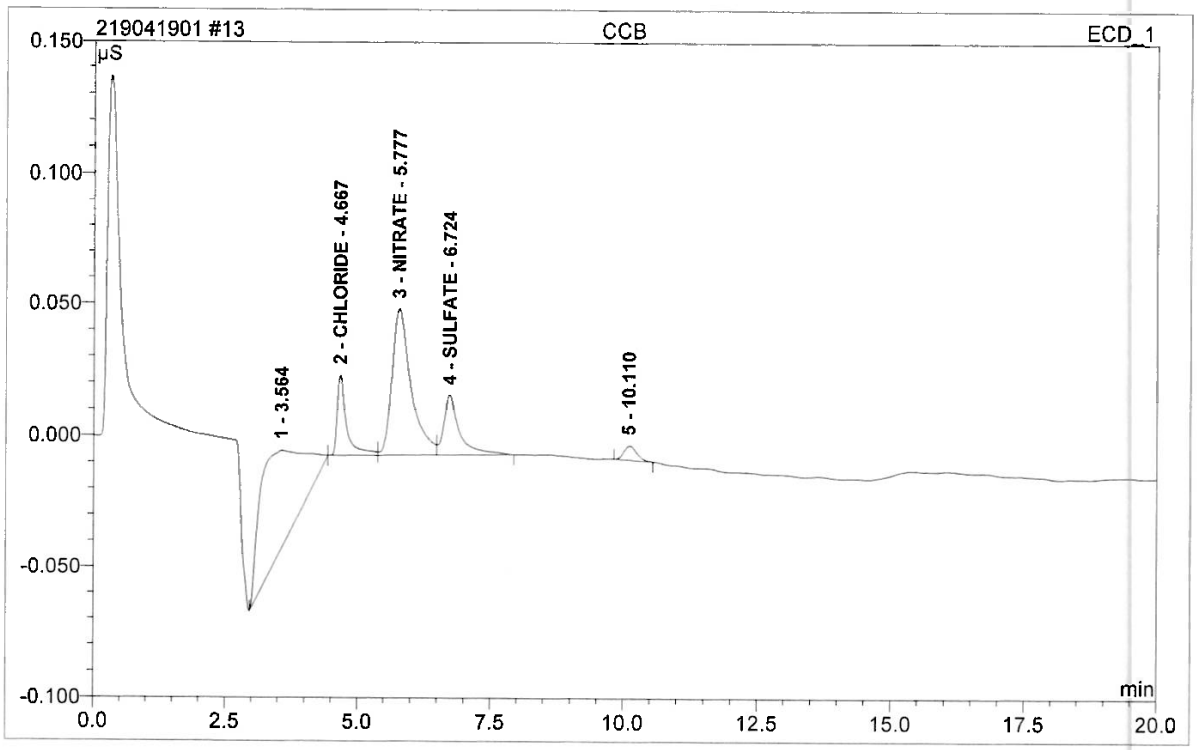


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	9.182	1.410	1.28	3.030	BMB
2	4.62	CHLORIDE	329.993	58.913	53.29	197.887	bM
3	5.73	NITRATE	9.344	1.955	1.77	2.963	M
4	6.42	SULFATE	136.088	43.946	39.75	199.459	M
5	8.29	BROMIDE	7.553	1.782	1.61	14.383	MB
6	9.98	n.a.	6.551	2.013	1.82	n.a.	BMB
7	14.70	PHOSPHATE	0.520	0.529	0.48	2.857	BMB
Total:			499.232	110.548	100.00	420.578	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

13 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 10:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



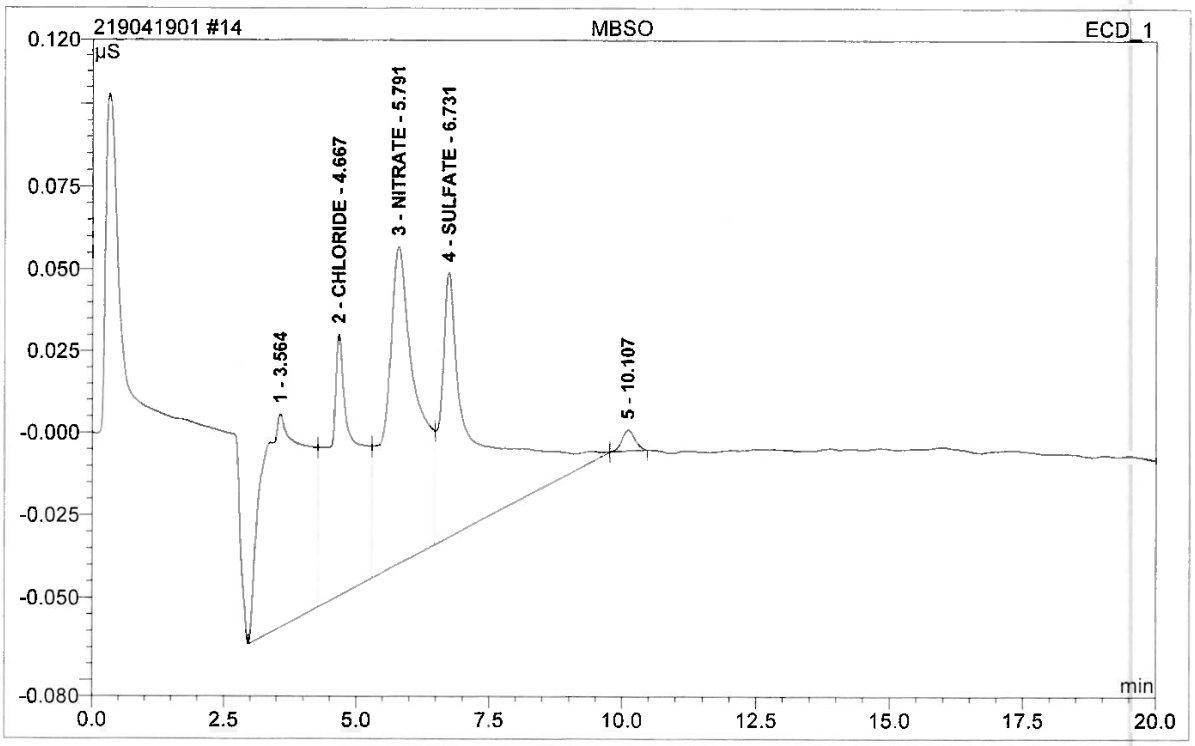
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.56	n.a.	0.037	0.036	48.38	n.a.	BMB
2	4.67	CHLORIDE	0.030	0.006	8.39	0.021	bM
3	5.78	NITRATE	0.055	0.023	30.76	0.035	M
4	6.72	SULFATE	0.022	0.008	10.44	0.035	MB
5	10.11	n.a.	0.005	0.002	2.03	n.a.	BMB
Total:			0.151	0.075	100.00	0.091	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

14 MBSO

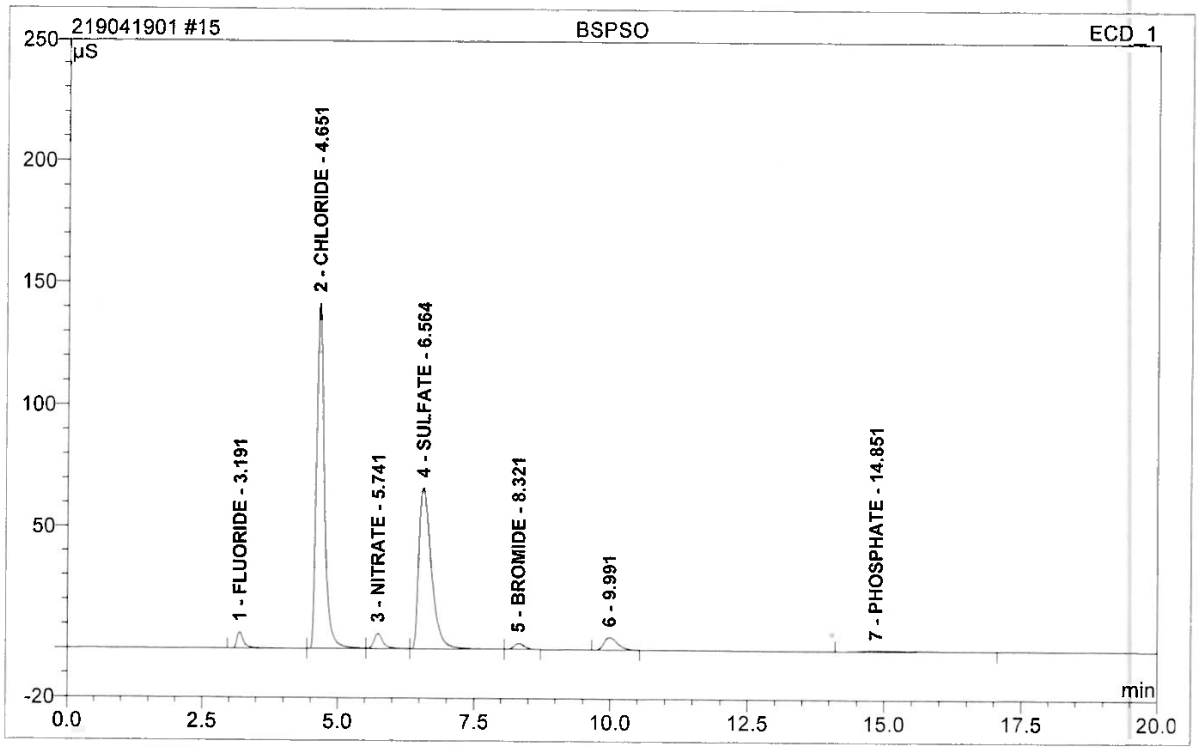
Sample Name:	**MBSO**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 11:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.56	n.a.	0.064	0.064	26.14	n.a.	BM
2	4.67	CHLORIDE	0.080	0.051	20.67	0.171	M
3	5.79	NITRATE	0.097	0.066	26.89	0.100	M
4	6.73	SULFATE	0.081	0.063	25.57	0.286	MB
5	10.11	n.a.	0.006	0.002	0.73	n.a.	bMB
Total:			0.328	0.246	100.00	0.557	

15 BSPSO

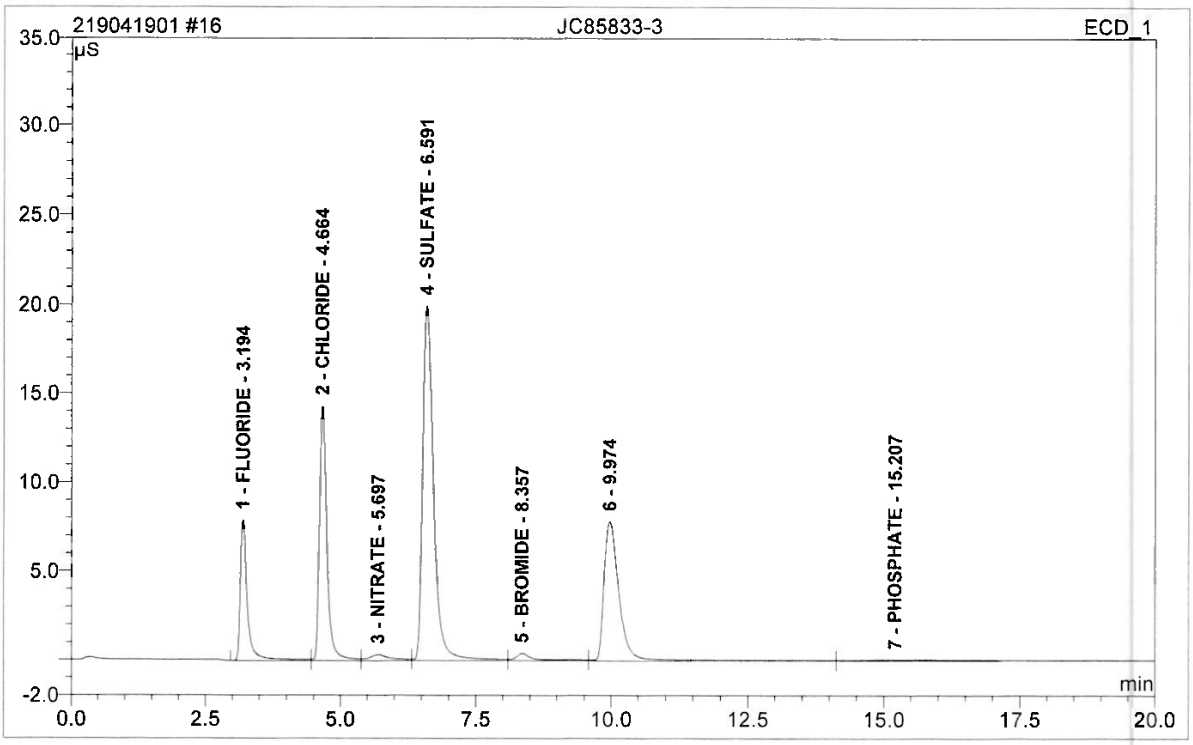
Sample Name:	**BSPSO**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 11:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	6.544	0.991	2.14	2.129	BM
2	4.65	CHLORIDE	141.639	23.909	51.67	80.310	M
3	5.74	NITRATE	6.264	1.261	2.72	1.911	M
4	6.56	SULFATE	66.413	17.662	38.17	80.160	M
5	8.32	BROMIDE	2.429	0.545	1.18	4.395	MB
6	9.99	n.a.	5.124	1.493	3.23	n.a.	BMB
7	14.85	PHOSPHATE	0.402	0.416	0.90	2.249	BMB
Total:			228.816	46.276	100.00	171.155	

16 JC85833-3

Sample Name:	**JC85833-3**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**3.0000**
Recording Time:	**4/19/2019 12:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



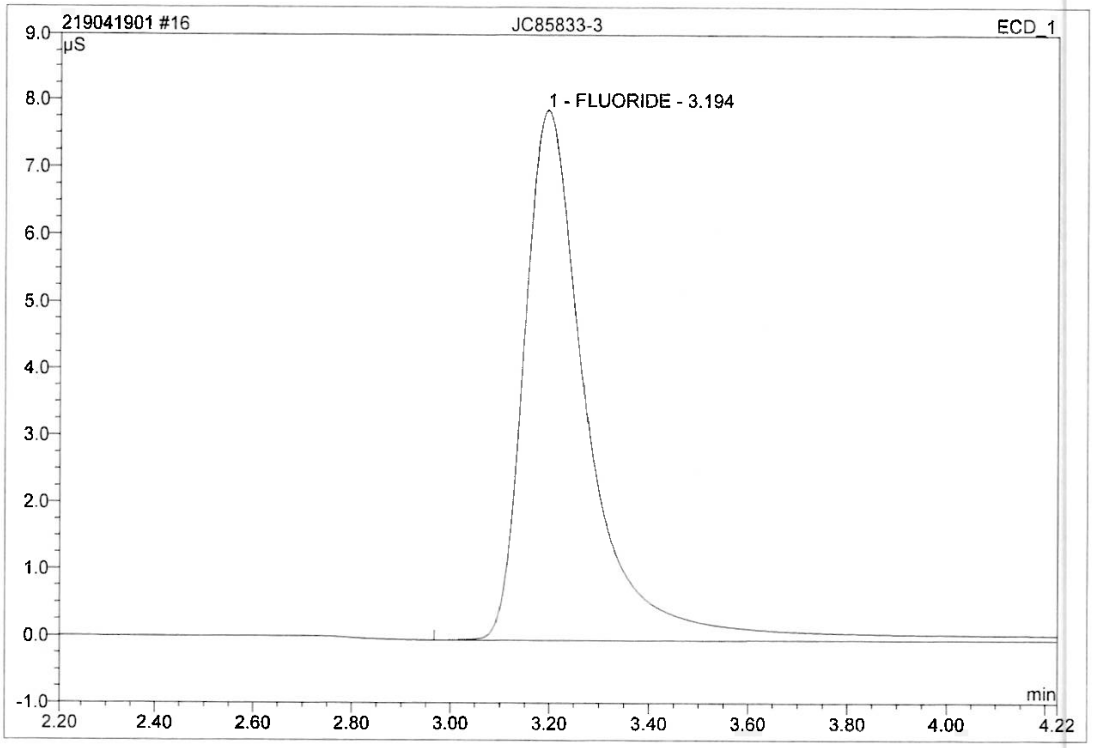
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	7.909	1.224	10.80	7.895	BM
2	4.66	CHLORIDE	14.327	2.315	20.42	23.326	M
3	5.70	NITRATE	0.342	0.160	1.41	0.727	M
4	6.59	SULFATE	19.988	4.711	41.56	64.140	M
5	8.36	BROMIDE	0.414	0.170	1.50	4.104	M
6	9.97	n.a.	7.831	2.596	22.90	n.a.	M
7	15.21	PHOSPHATE	0.057	0.159	1.40	2.578	MB
Total:			50.866	11.334	100.00	102.770	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

4/20/2019 9:32 AM

16 JC85833-3

Sample Name:	**JC85833-3**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**3.0000**
Recording Time:	**4/19/2019 12:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



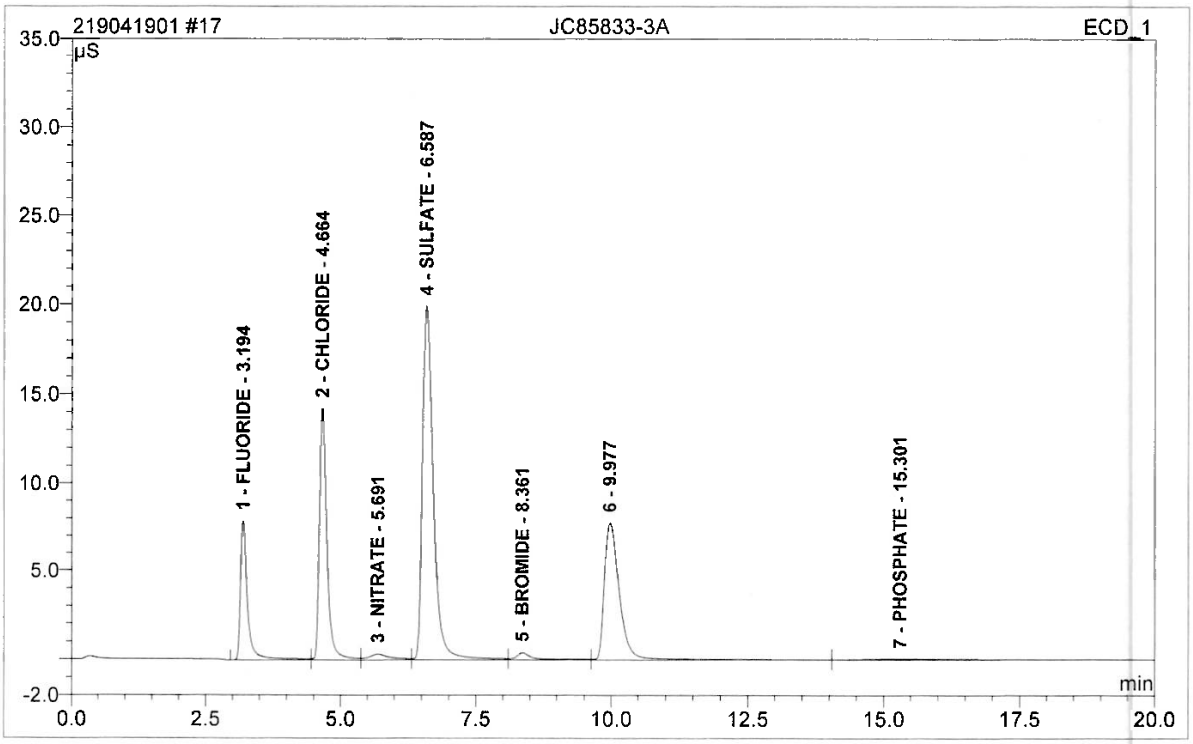
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	7.909	1.224	10.80	7.895	BM
2	4.66	CHLORIDE	14.327	2.315	20.42	23.326	M
3	5.70	NITRATE	0.342	0.160	1.41	0.727	M
4	6.59	SULFATE	19.988	4.711	41.56	64.140	M
5	8.36	BROMIDE	0.414	0.170	1.50	4.104	M
6	9.97	n.a.	7.831	2.596	22.90	n.a.	M
7	15.21	PHOSPHATE	0.057	0.159	1.40	2.578	MB
Total:			50.866	11.334	100.00	102.770	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

17 JC85833-3A

Sample Name:	**JC85833-3A**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**3.0000**
Recording Time:	**4/19/2019 12:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



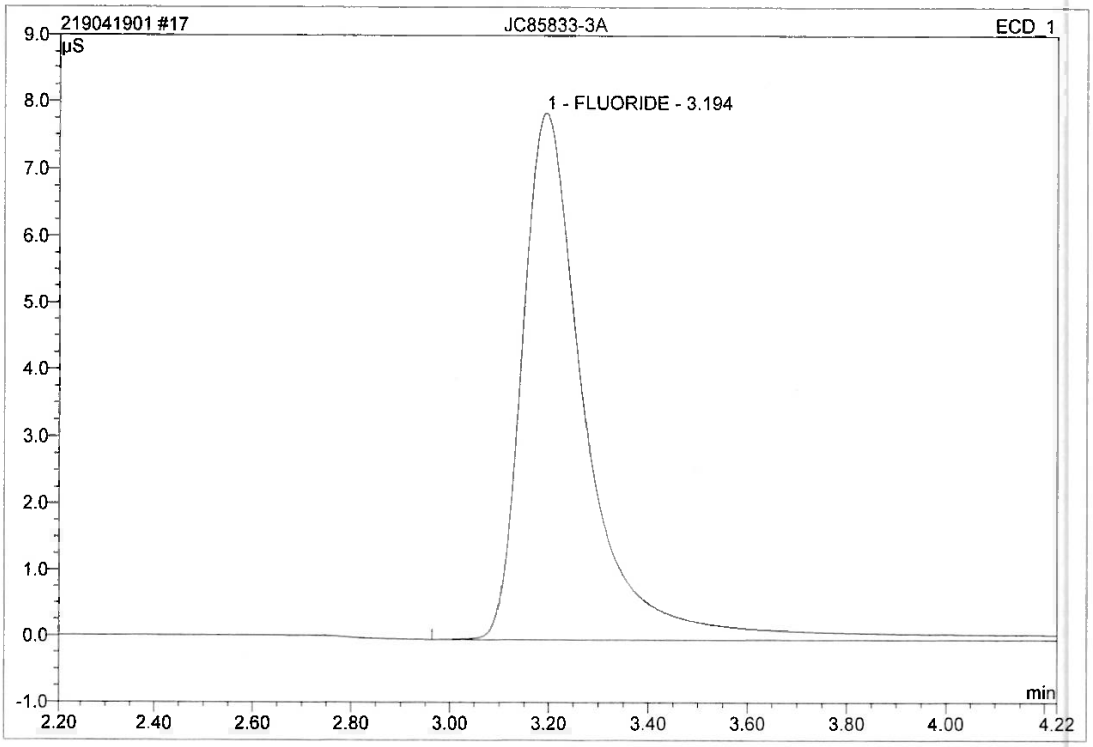
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	7.890	1.219	10.76	7.858	BM
2	4.66	CHLORIDE	14.235	2.308	20.39	23.261	M
3	5.69	NITRATE	0.340	0.159	1.41	0.724	M
4	6.59	SULFATE	19.939	4.696	41.47	63.945	M
5	8.36	BROMIDE	0.412	0.173	1.52	4.178	M
6	9.98	n.a.	7.788	2.586	22.83	n.a.	M
7	15.30	PHOSPHATE	0.059	0.183	1.61	2.962	MB
Total:			50.664	11.323	100.00	102.929	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

4/20/2019 9:32 AM

17 JC85833-3A

Sample Name:	**JC85833-3A**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**3.0000**
Recording Time:	**4/19/2019 12:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



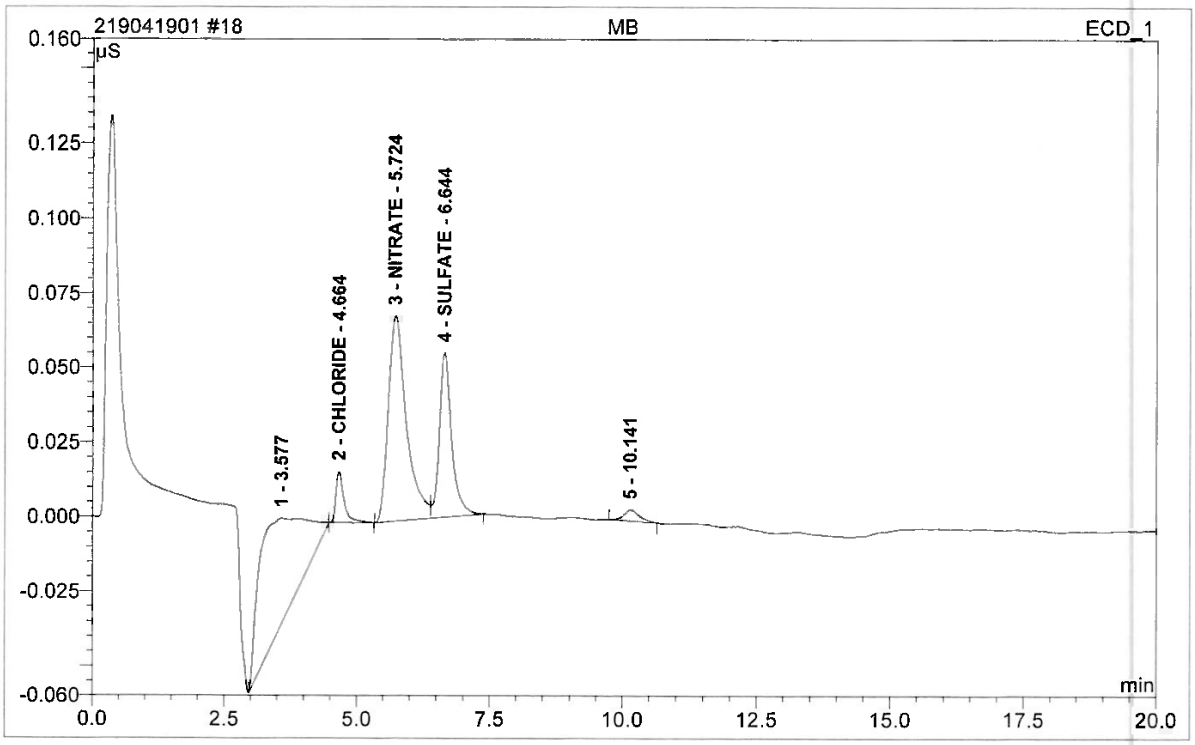
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	7.890	1.219	10.76	7.858	BM
2	4.66	CHLORIDE	14.235	2.308	20.39	23.261	M
3	5.69	NITRATE	0.340	0.159	1.41	0.724	M
4	6.59	SULFATE	19.939	4.696	41.47	63.945	M
5	8.36	BROMIDE	0.412	0.173	1.52	4.178	M
6	9.98	n.a.	7.788	2.586	22.83	n.a.	M
7	15.30	PHOSPHATE	0.059	0.183	1.61	2.962	MB
Total:			50.664	11.323	100.00	102.929	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

18 MB

Sample Name:	**MB**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 12:49**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

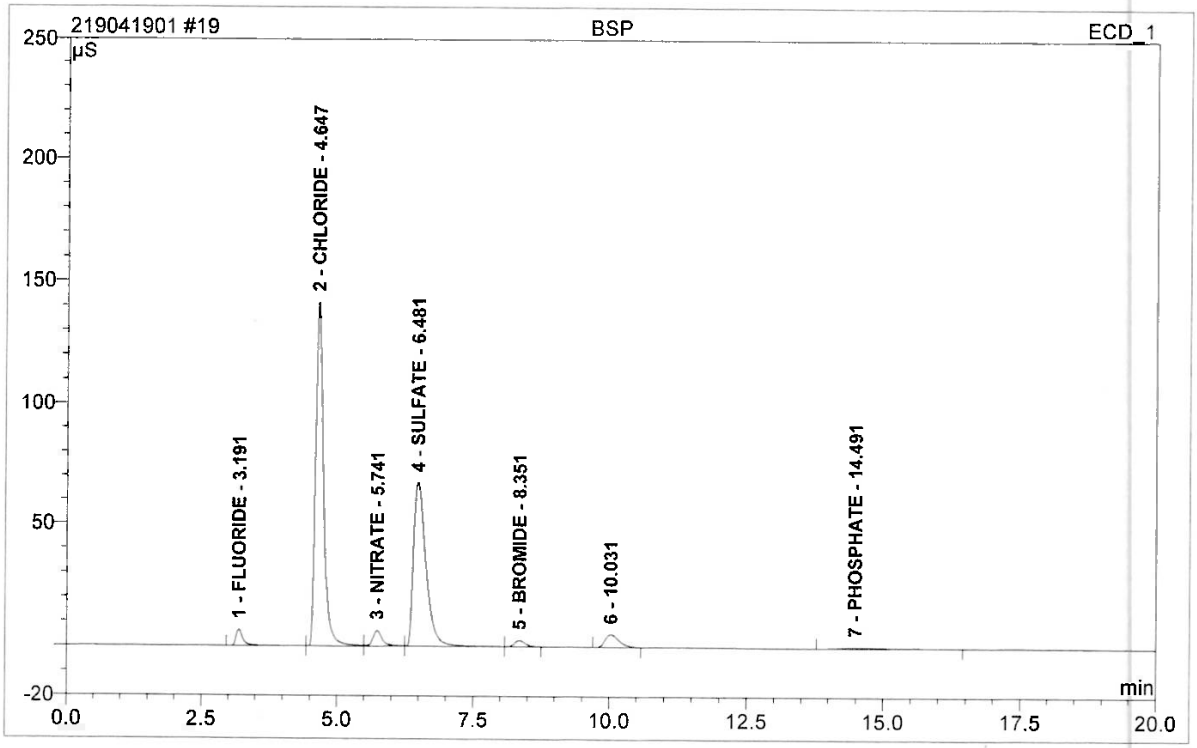


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.58	n.a.	0.035	0.035	43.39	n.a.	BMB
2	4.66	CHLORIDE	0.017	0.003	3.75	0.010	bMB
3	5.72	NITRATE	0.069	0.027	33.24	0.041	BM
4	6.64	SULFATE	0.055	0.015	18.04	0.067	MB
5	10.14	n.a.	0.004	0.001	1.57	n.a.	BMB
Total:			0.180	0.082	100.00	0.118	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

19 BSP

Sample Name:	**BSP**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 13:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	6.555	0.988	2.13	2.123	BM
2	4.65	CHLORIDE	141.304	23.930	51.63	80.380	M
3	5.74	NITRATE	6.245	1.263	2.73	1.914	M
4	6.48	SULFATE	67.402	17.709	38.21	80.375	M
5	8.35	BROMIDE	2.409	0.541	1.17	4.369	MB
6	10.03	n.a.	5.078	1.494	3.22	n.a.	BMB
7	14.49	PHOSPHATE	0.460	0.423	0.91	2.284	BMB
Total:			229.452	46.349	100.00	171.447	

anions/Integration

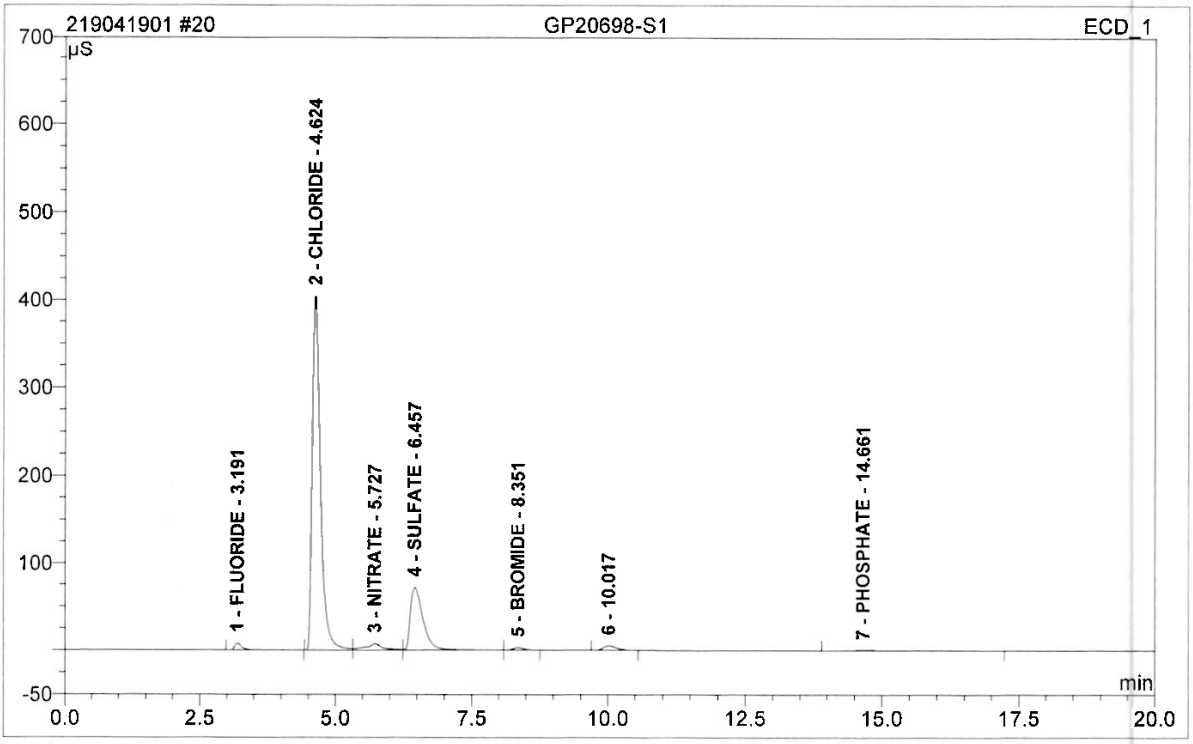
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

13.8 13

20 GP20698-S1

JC86397-1

Sample Name:	**GP20698-S1**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**2.0000**
Recording Time:	**4/19/2019 13:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

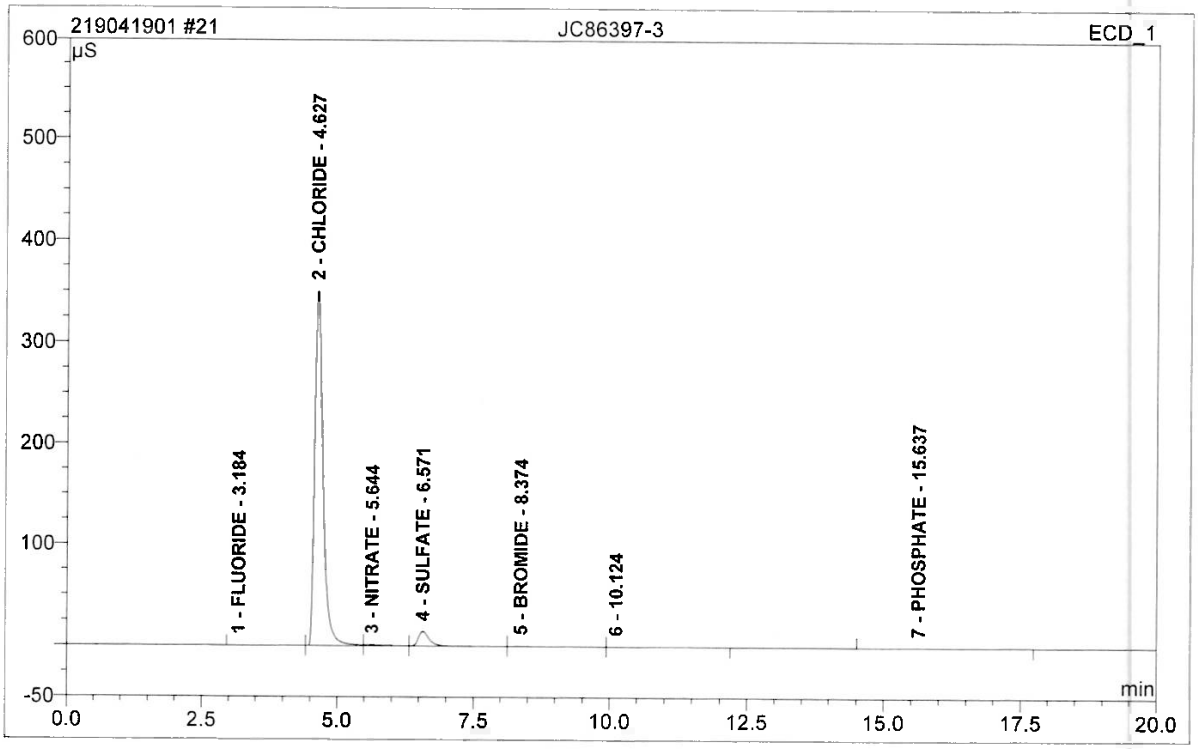


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	7.920	1.199	1.23	5.154	BMB
2	4.62	CHLORIDE	404.204	71.786	73.69	482.255	BM
3	5.73	NITRATE	7.341	2.585	2.65	7.834	M
4	6.46	SULFATE	71.766	19.244	19.75	174.682	M
5	8.35	BROMIDE	2.639	0.605	0.62	9.769	MB
6	10.02	n.a.	5.148	1.475	1.51	n.a.	BMB
7	14.66	PHOSPHATE	0.451	0.523	0.54	5.657	BMB
Total:			499.469	97.418	100.00	685.352	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

21 JC86397-3

Sample Name:	**JC86397-3**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**4/19/2019 14:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



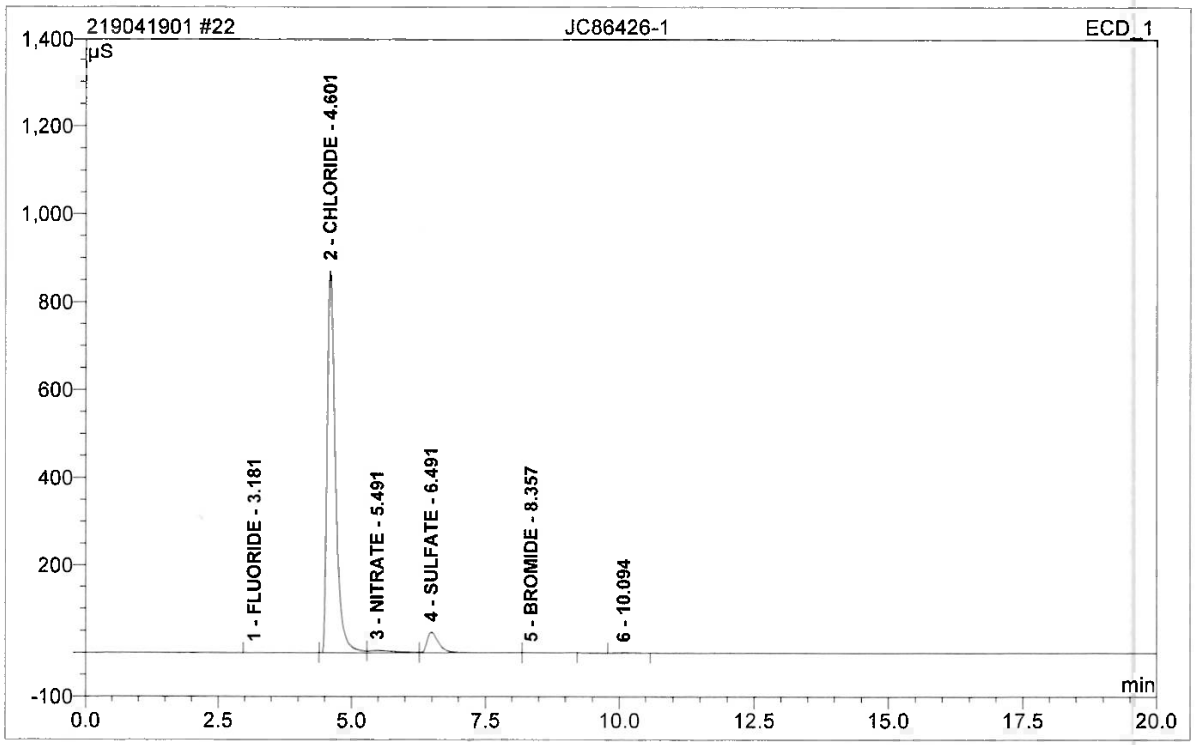
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.191	0.059	0.09	1.274	BMB
2	4.63	CHLORIDE	350.252	62.711	93.46	2106.448	bM
3	5.64	NITRATE	1.060	0.551	0.82	8.345	M
4	6.57	SULFATE	14.132	3.518	5.24	159.658	M
5	8.37	BROMIDE	0.378	0.198	0.30	16.005	M
6	10.12	n.a.	0.045	0.045	0.07	n.a.	MB
7	15.64	PHOSPHATE	0.008	0.015	0.02	0.833	BMB
Total:			366.068	67.098	100.00	2292.563	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

22 JC86426-1

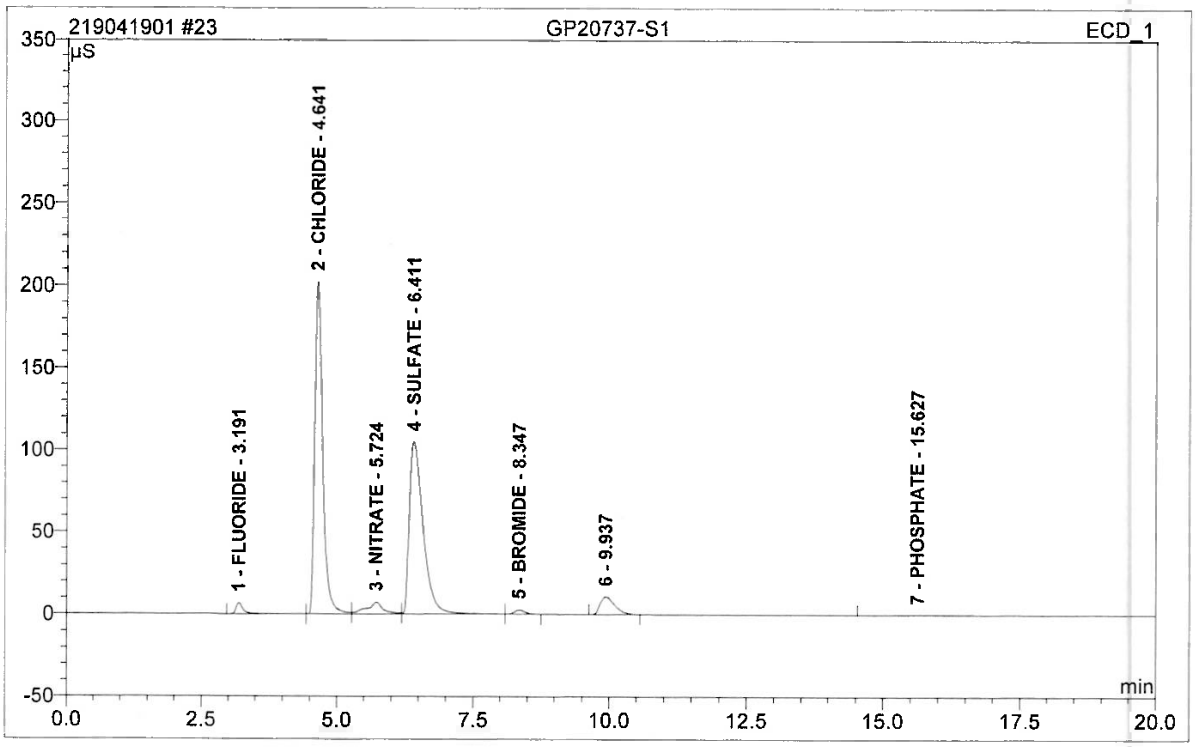
Sample Name:	**JC86426-1**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 14:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.130	0.041	0.02	0.088	BMB
2	4.60	CHLORIDE	869.745	158.033	90.95	530.830	BM
3	5.49	NITRATE	5.449	3.108	1.79	4.710	M
4	6.49	SULFATE	46.604	12.228	7.04	55.497	M
5	8.36	BROMIDE	0.262	0.118	0.07	0.949	MB
6	10.09	n.a.	0.856	0.234	0.13	n.a.	BMB
Total:			923.046	173.761	100.00	592.074	

23 GP20737-S1

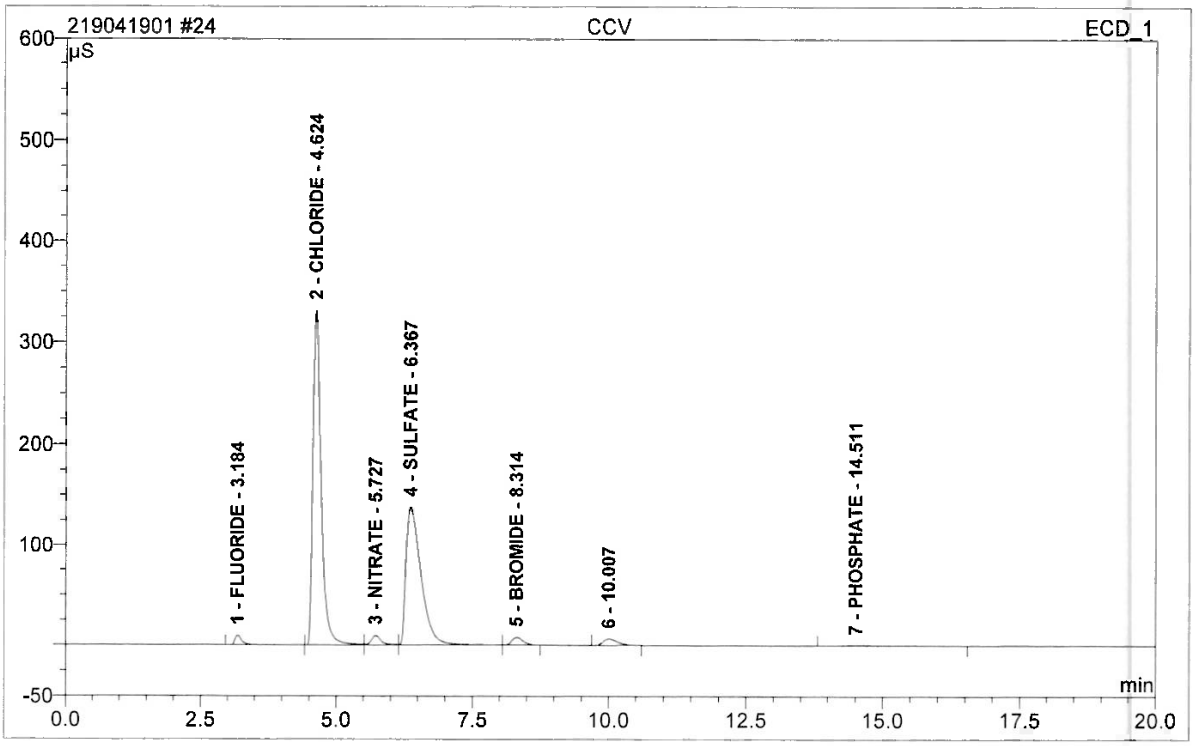
Sample Name:	**GP20737-S1**	*Injection Volume:*	**20.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 14:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	6.624	1.002	1.36	2.153	BMB
2	4.64	CHLORIDE	202.132	34.632	47.18	116.329	bM
3	5.72	NITRATE	7.132	2.533	3.45	3.839	M
4	6.41	SULFATE	104.804	30.861	42.04	140.067	M
5	8.35	BROMIDE	2.485	0.571	0.78	4.607	MB
6	9.94	n.a.	10.654	3.352	4.57	n.a.	BMB
7	15.63	PHOSPHATE	0.203	0.454	0.62	2.454	BMB
Total:			334.035	73.406	100.00	269.450	

24 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 15:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



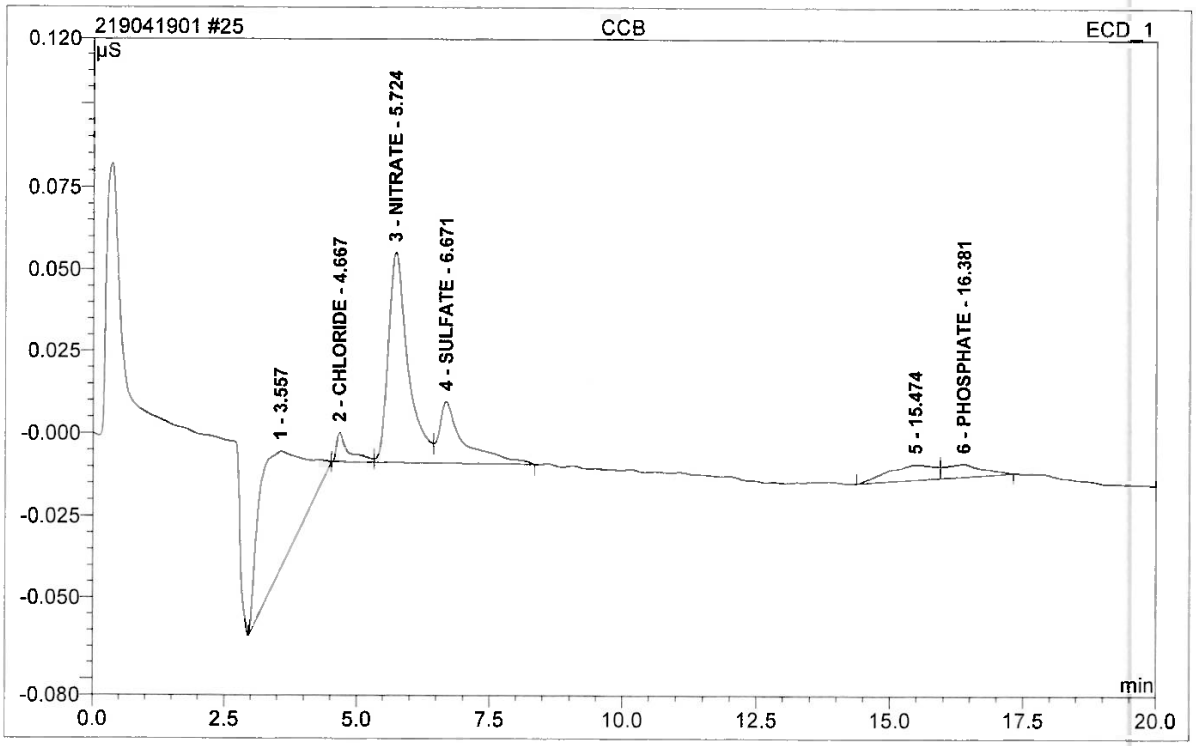
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	9.401	1.423	1.29	3.060	BMB
2	4.62	CHLORIDE	330.880	58.893	53.38	197.821	BM
3	5.73	NITRATE	9.390	1.944	1.76	2.946	M
4	6.37	SULFATE	137.833	43.820	39.72	198.884	M
5	8.31	BROMIDE	7.534	1.772	1.61	14.299	MB
6	10.01	n.a.	6.354	1.946	1.76	n.a.	BMB
7	14.51	PHOSPHATE	0.566	0.532	0.48	2.876	BMB
Total:			501.959	110.330	100.00	419.885	

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

25 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 15:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.56	n.a.	0.036	0.036	42.66	n.a.	BMB
2	4.67	CHLORIDE	0.009	0.002	2.85	0.008	bM
3	5.72	NITRATE	0.064	0.027	32.92	0.042	M
4	6.67	SULFATE	0.019	0.010	12.07	0.046	MB
5	15.47	n.a.	0.005	0.005	5.69	n.a.	BM
6	16.38	PHOSPHATE	0.004	0.003	3.80	0.017	MB
Total:			0.135	0.083	100.00	0.113	

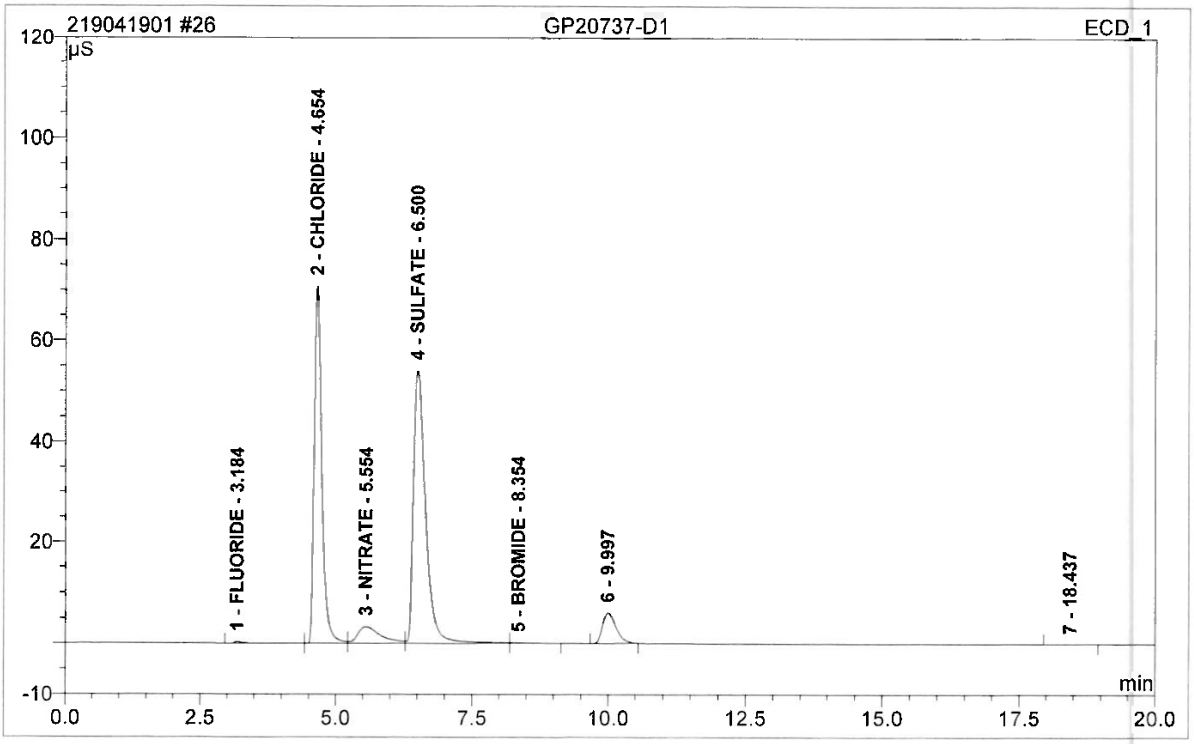
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

26 GP20737-D1

JC86512-8

Sample Name:	**GP20737-D1**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 16:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

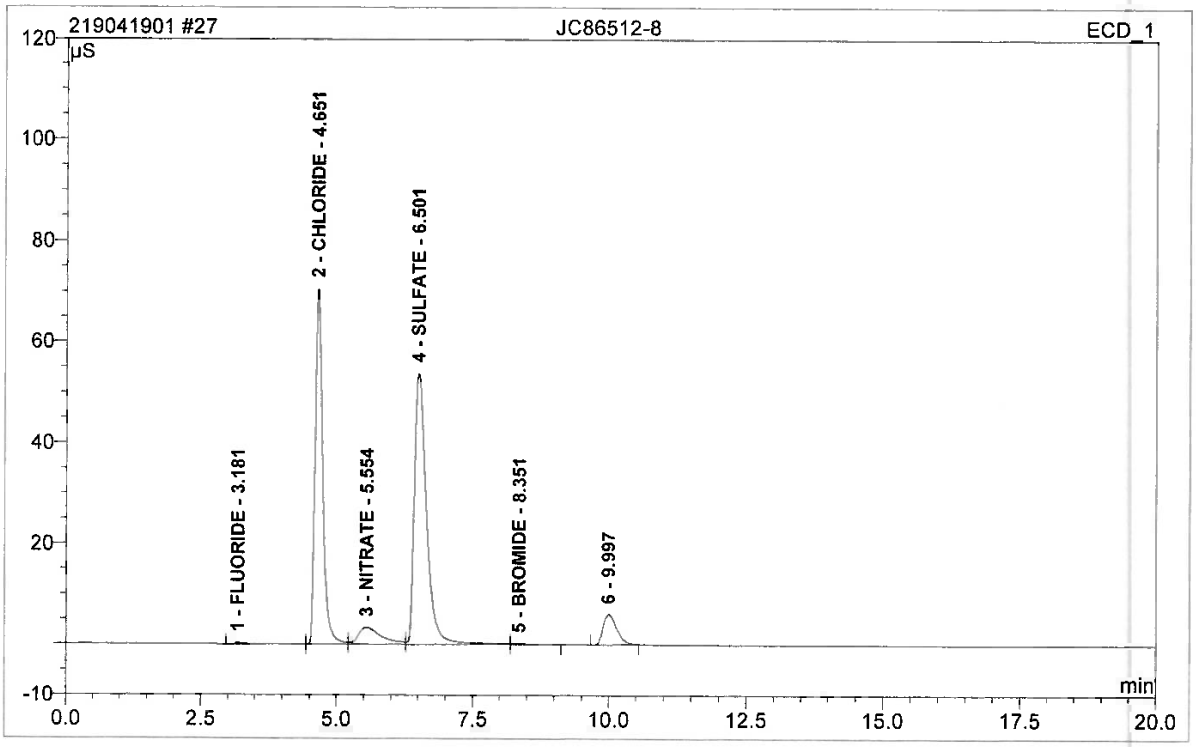


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.316	0.092	0.32	0.197	BM
2	4.65	CHLORIDE	70.758	11.557	39.91	38.821	M
3	5.55	NITRATE	3.307	1.615	5.58	2.447	M
4	6.50	SULFATE	53.998	13.900	48.00	63.085	M
5	8.35	BROMIDE	0.119	0.049	0.17	0.394	MB
6	10.00	n.a.	6.003	1.744	6.02	n.a.	BMB
7	18.44	n.a.	0.002	0.001	0.00	n.a.	BMB
Total:			134.503	28.957	100.00	104.944	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

27 JC86512-8

Sample Name:	**JC86512-8**	*Injection Volume:*	**20.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 16:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.311	0.075	0.26	0.161	BMB
2	4.65	CHLORIDE	70.538	11.503	39.91	38.640	bM
3	5.55	NITRATE	3.289	1.602	5.56	2.428	M
4	6.50	SULFATE	53.800	13.857	48.08	62.893	M
5	8.35	BROMIDE	0.116	0.047	0.16	0.377	MB
6	10.00	n.a.	5.998	1.737	6.03	n.a.	BMB
Total:			134.052	28.821	100.00	104.498	

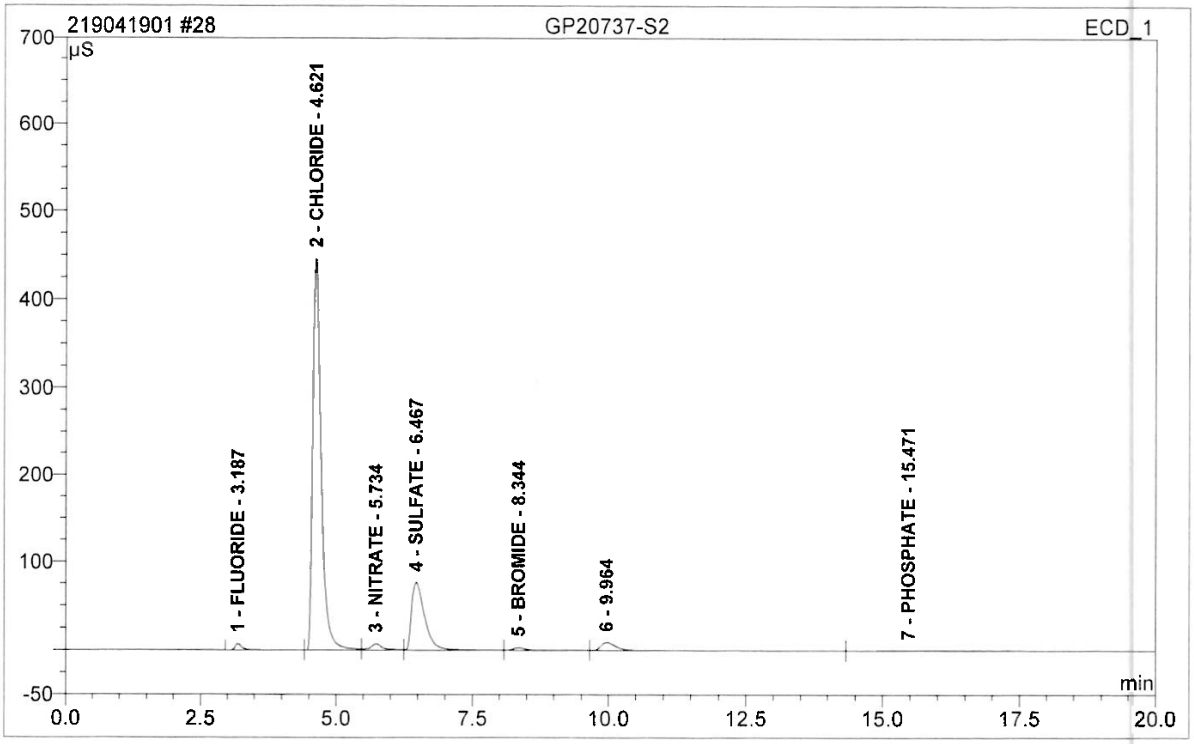
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

28 GP20737-S2

JC86512-10

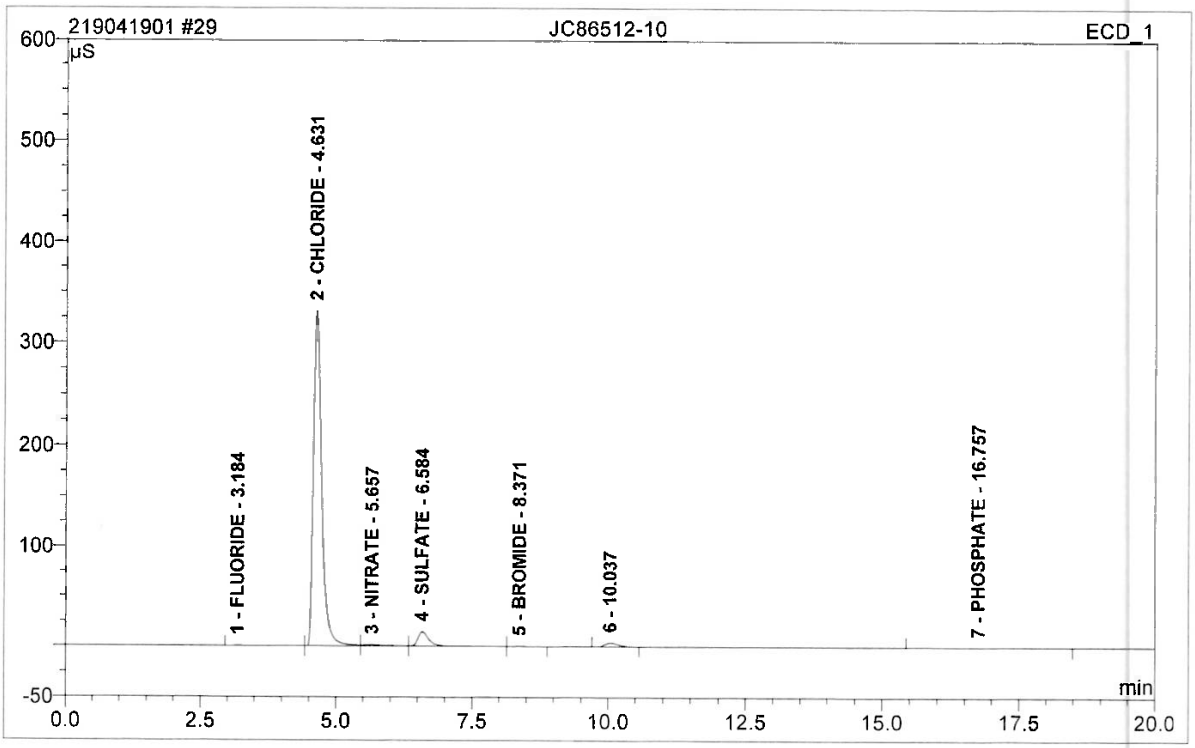
Sample Name:	**GP20737-S2**	*Injection Volume:*	**20.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 16:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	6.868	1.075	0.98	2.310	BM
2	4.62	CHLORIDE	446.054	80.851	73.68	271.575	M
3	5.73	NITRATE	7.109	1.886	1.72	2.857	M
4	6.47	SULFATE	76.599	21.374	19.48	97.011	M
5	8.34	BROMIDE	2.914	0.918	0.84	7.407	M
6	9.96	n.a.	8.969	3.120	2.84	n.a.	M
7	15.47	PHOSPHATE	0.218	0.503	0.46	2.719	MB
Total:			548.730	109.726	100.00	383.881	

29 JC86512-10

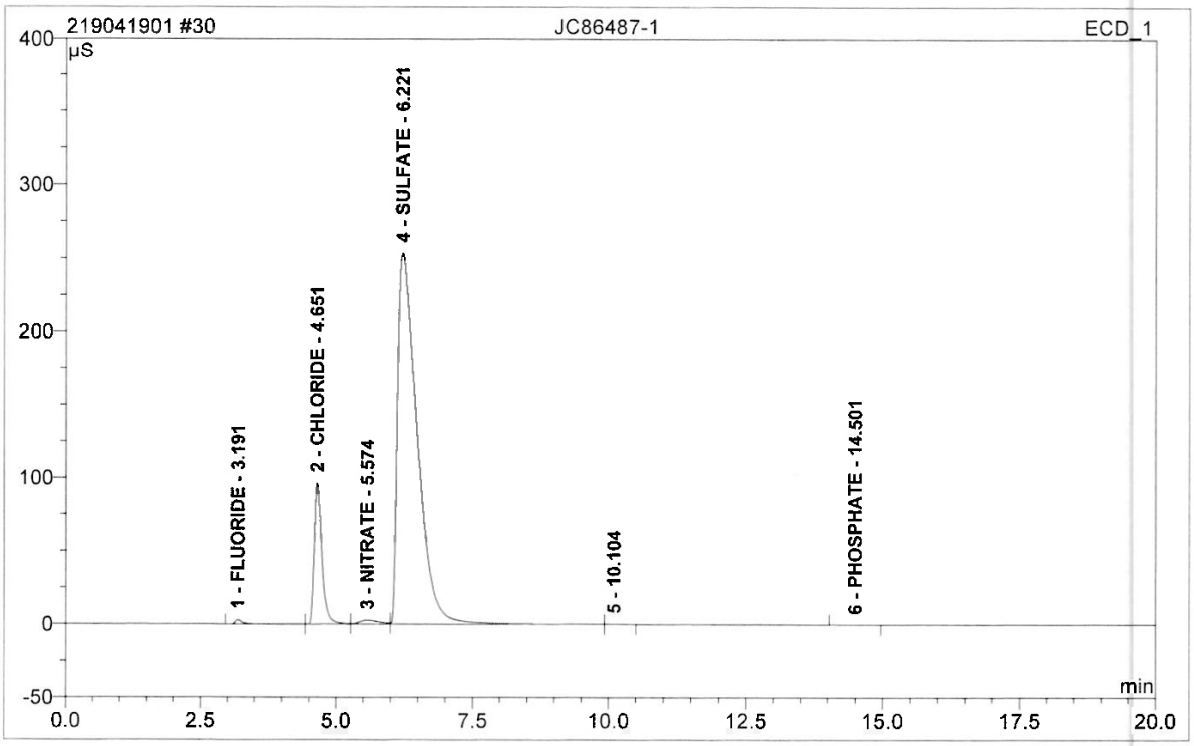
Sample Name:	**JC86512-10**	*Injection Volume:*	**20.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 17:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.500	0.105	0.16	0.226	BMB
2	4.63	CHLORIDE	330.436	59.044	91.56	198.327	bM
3	5.66	NITRATE	1.348	0.675	1.05	1.022	M
4	6.58	SULFATE	14.378	3.502	5.43	15.895	M
5	8.37	BROMIDE	0.207	0.059	0.09	0.475	MB
6	10.04	n.a.	3.860	1.090	1.69	n.a.	BMB
7	16.76	PHOSPHATE	0.006	0.009	0.01	0.050	BMB
Total:			350.734	64.484	100.00	215.996	

30 JC86487-1

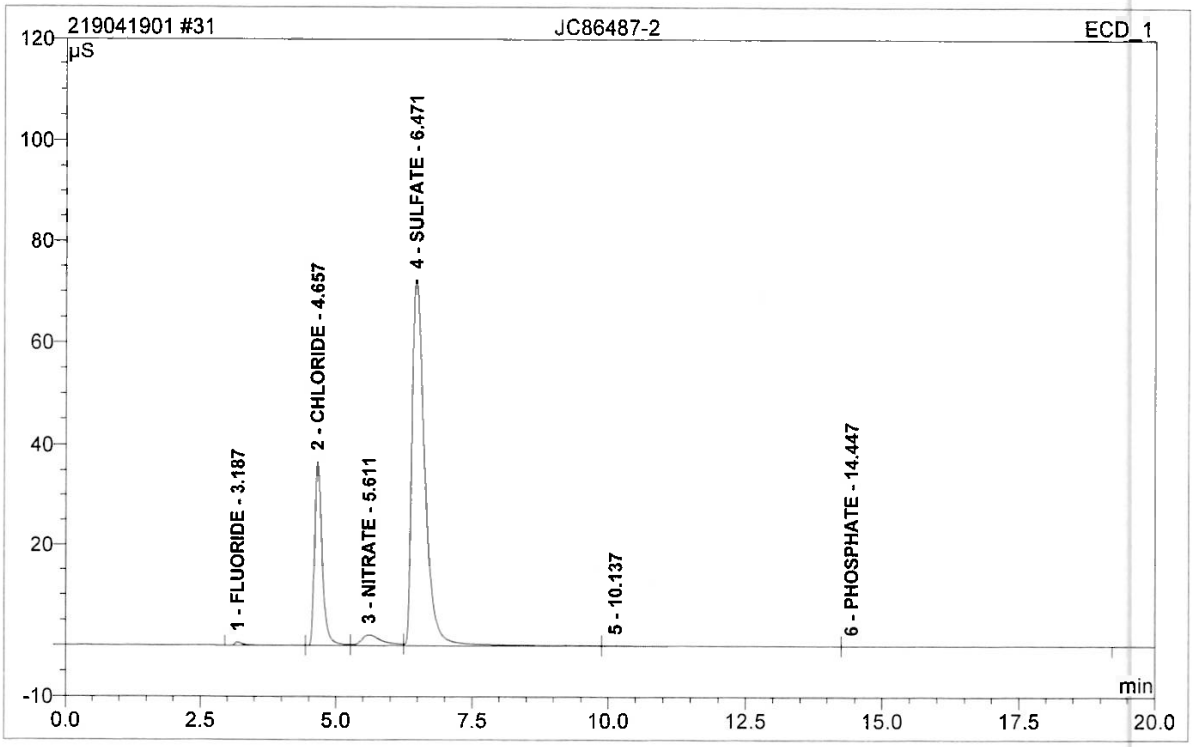
Sample Name:	**JC86487-1**	*Injection Volume:*	**20.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 17:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	2.905	0.469	0.38	1.007	BM
2	4.65	CHLORIDE	96.479	15.848	12.94	53.234	M
3	5.57	NITRATE	2.746	1.158	0.95	1.755	M
4	6.22	SULFATE	253.526	105.011	85.73	476.613	Mb
5	10.10	n.a.	0.018	0.005	0.00	n.a.	bMB
6	14.50	PHOSPHATE	0.015	0.006	0.00	0.031	BMB
Total:			355.690	122.497	100.00	532.641	

31 JC86487-2

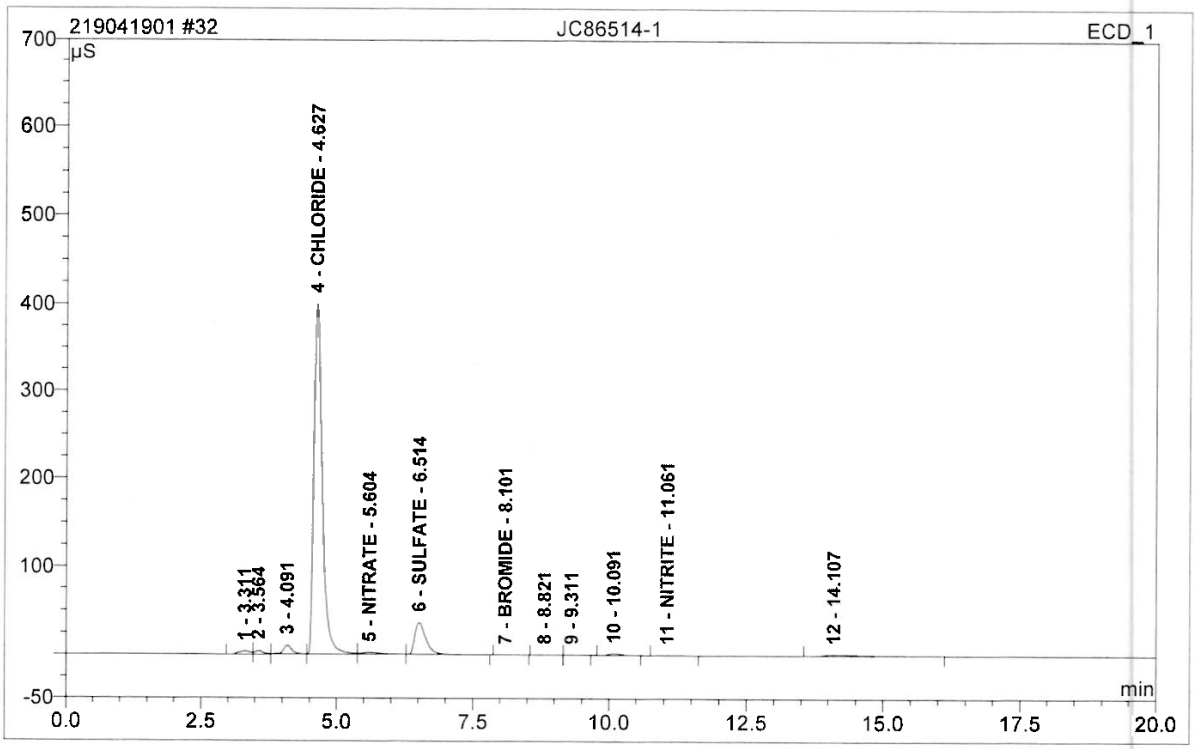
Sample Name:	**JC86487-2**	*Injection Volume:*	**20.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 18:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	0.690	0.179	0.65	0.385	BM
2	4.66	CHLORIDE	36.797	5.979	21.83	20.084	M
3	5.61	NITRATE	2.111	0.937	3.42	1.419	M
4	6.47	SULFATE	72.440	20.022	73.11	90.874	M
5	10.14	n.a.	0.107	0.216	0.79	n.a.	M
6	14.45	PHOSPHATE	0.024	0.052	0.19	0.281	MB
Total:			112.169	27.385	100.00	113.043	

32 JC86514-1

Sample Name:	**JC86514-1**	*Injection Volume:*	**20.0**
Vial Number:	**23**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 18:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



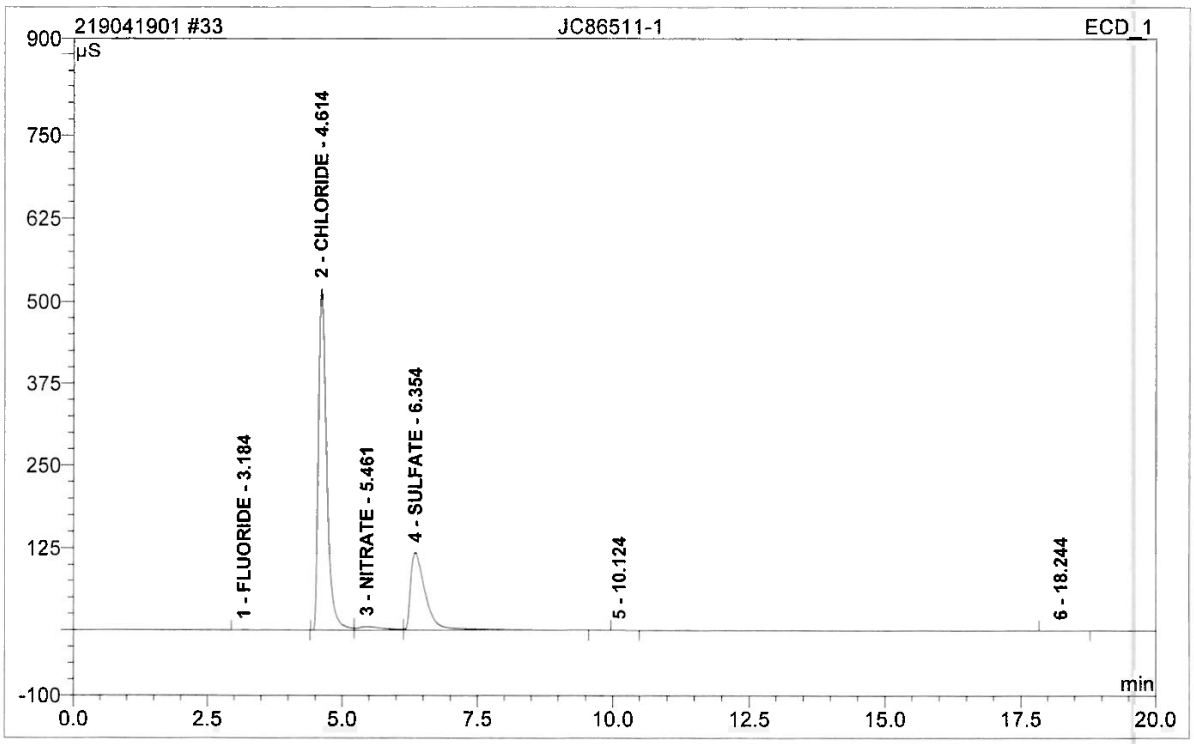
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.31	n.a.	3.479	0.870	1.00	n.a.	BM
2	3.56	n.a.	4.179	0.694	0.80	n.a.	M
3	4.09	n.a.	10.066	1.903	2.19	n.a.	M
4	4.63	CHLORIDE	399.935	71.749	82.74	241.002	M
5	5.60	NITRATE	2.059	0.900	1.04	1.364	Mb
6	6.51	SULFATE	36.029	8.494	9.80	38.552	bMB
7	8.10	BROMIDE	0.047	0.015	0.02	0.118	BMB
8	8.82	n.a.	0.107	0.029	0.03	n.a.	BMB
9	9.31	n.a.	0.023	0.006	0.01	n.a.	BMB
10	10.09	n.a.	1.937	0.532	0.61	n.a.	BMB
11	11.06	NITRITE	0.352	0.109	0.13	n.a.	BMB

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

12	14.11	n.a.	1.621	1.417	1.63	n.a.	BMB
Total:			459.835	86.717	100.00	281.035	

33 JC86511-1

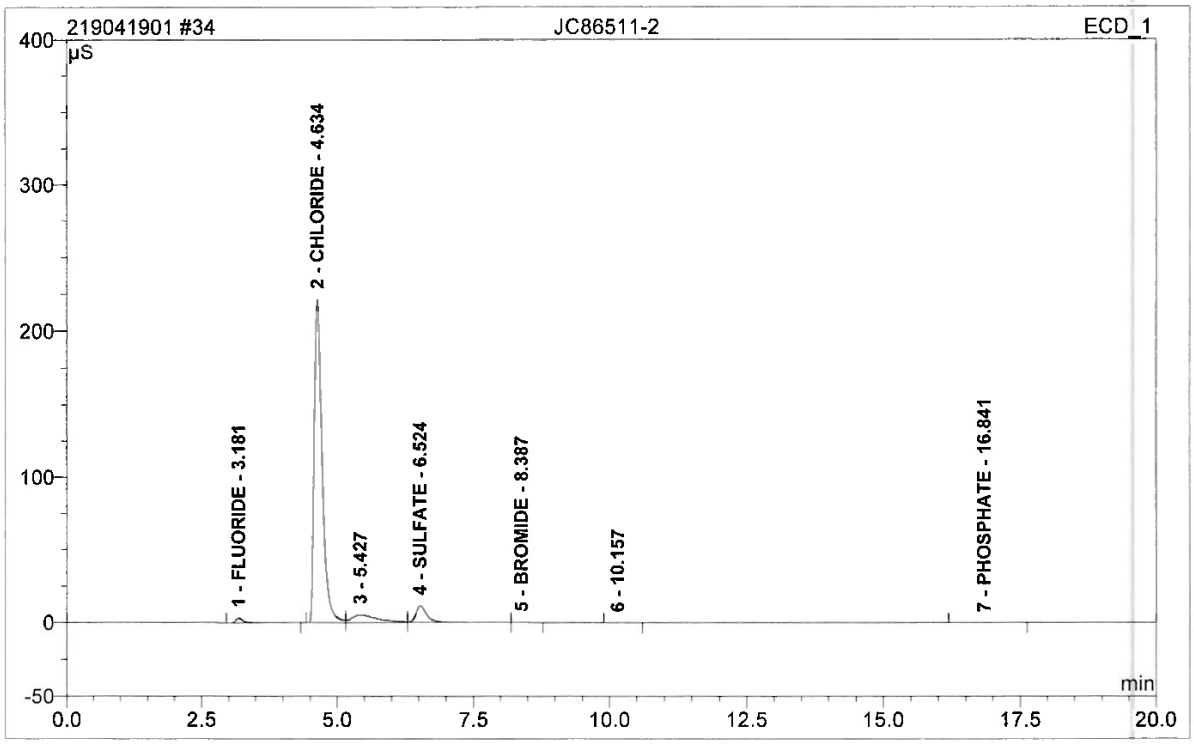
Sample Name:	**JC86511-1**	*Injection Volume:*	**20.0**
Vial Number:	**24**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 18:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.366	0.082	0.06	0.176	BMB
2	4.61	CHLORIDE	518.694	92.745	69.38	311.527	BM
3	5.46	NITRATE	5.153	2.831	2.12	4.290	M
4	6.35	SULFATE	117.778	38.009	28.43	172.511	MB
5	10.12	n.a.	0.028	0.007	0.01	n.a.	BMB
6	18.24	n.a.	0.002	0.001	0.00	n.a.	BMB
Total:			642.021	133.674	100.00	488.504	

34 JC86511-2

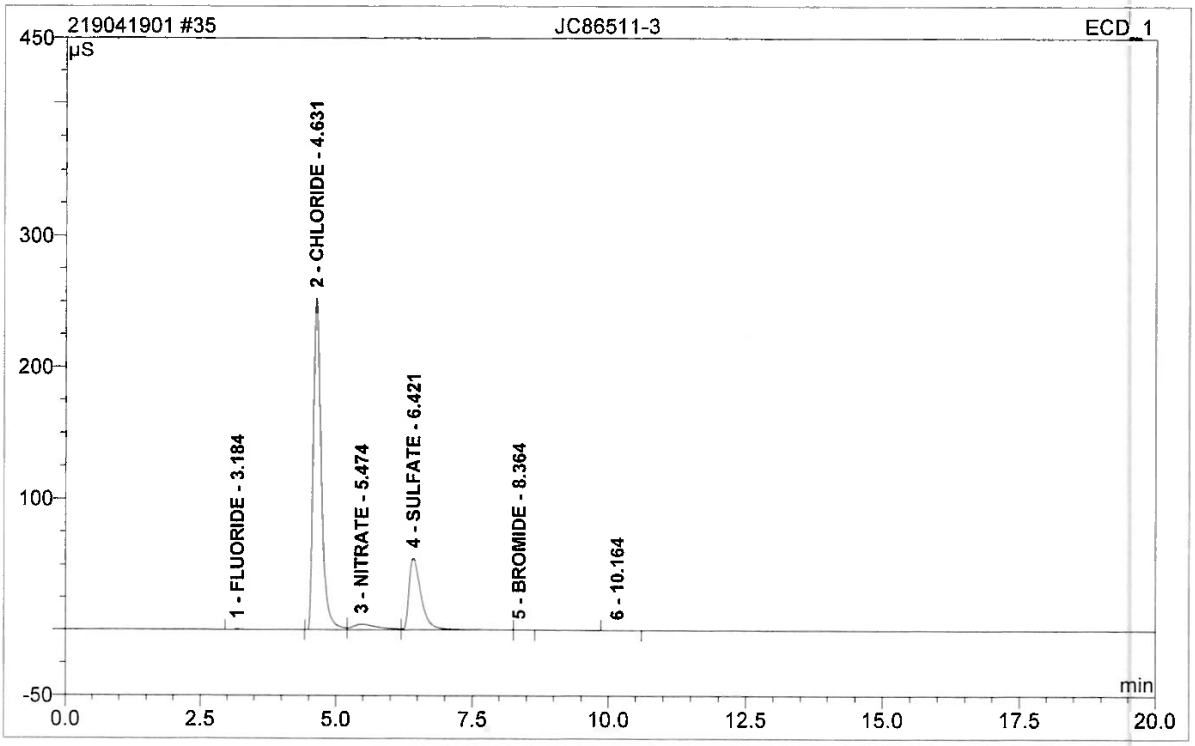
Sample Name:	**JC86511-2**	*Injection Volume:*	**20.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 19:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	3.125	0.472	1.07	1.015	BMB
2	4.63	CHLORIDE	220.982	37.791	85.65	126.938	BM
3	5.43	n.a.	5.196	2.938	6.66	n.a.	M
4	6.52	SULFATE	11.370	2.872	6.51	13.037	Mb
5	8.39	BROMIDE	0.105	0.023	0.05	0.188	bMB
6	10.16	n.a.	0.015	0.004	0.01	n.a.	BMB
7	16.84	PHOSPHATE	0.044	0.022	0.05	0.117	BMB
Total:			240.837	44.122	100.00	141.295	

35 JC86511-3

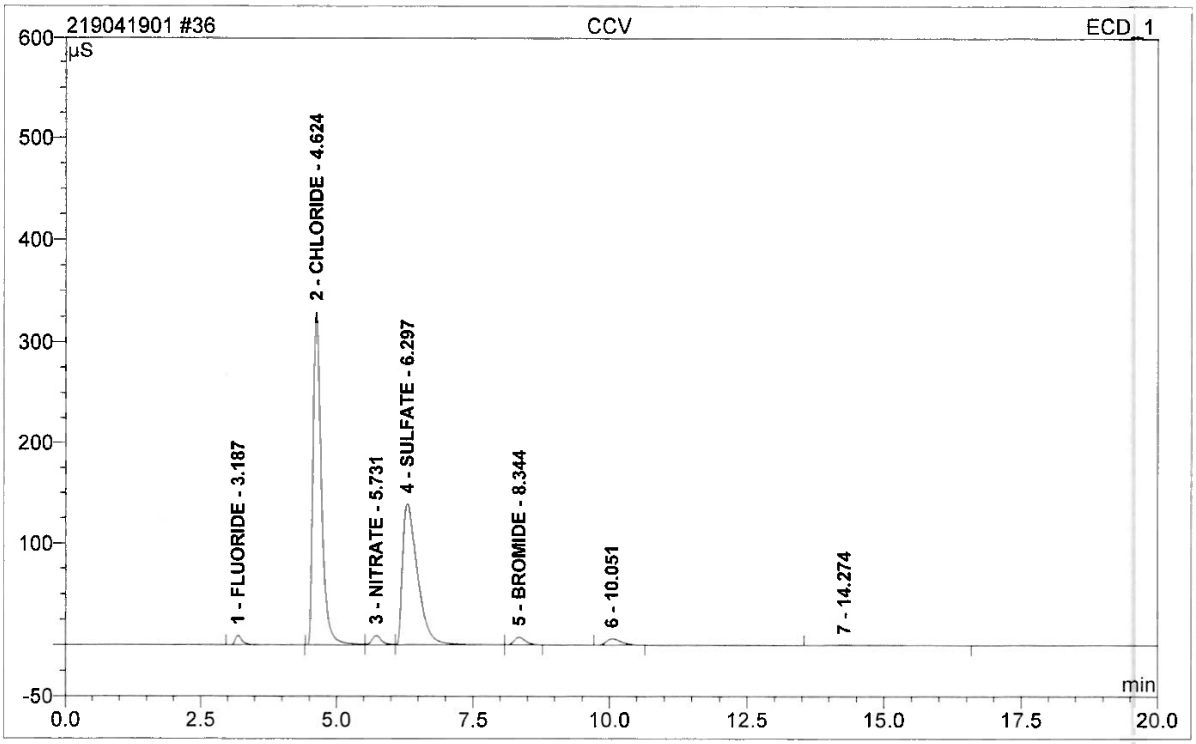
Sample Name:	**JC86511-3**	*Injection Volume:*	**20.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 19:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.405	0.090	0.15	0.193	BMB
2	4.63	CHLORIDE	252.017	43.554	72.70	146.297	BM
3	5.47	NITRATE	4.210	2.201	3.67	3.335	M
4	6.42	SULFATE	54.674	14.058	23.46	63.804	Mb
5	8.36	BROMIDE	0.018	0.004	0.01	0.031	bMB
6	10.16	n.a.	0.023	0.006	0.01	n.a.	BMB
Total:			311.348	59.912	100.00	213.659	

36 CCV

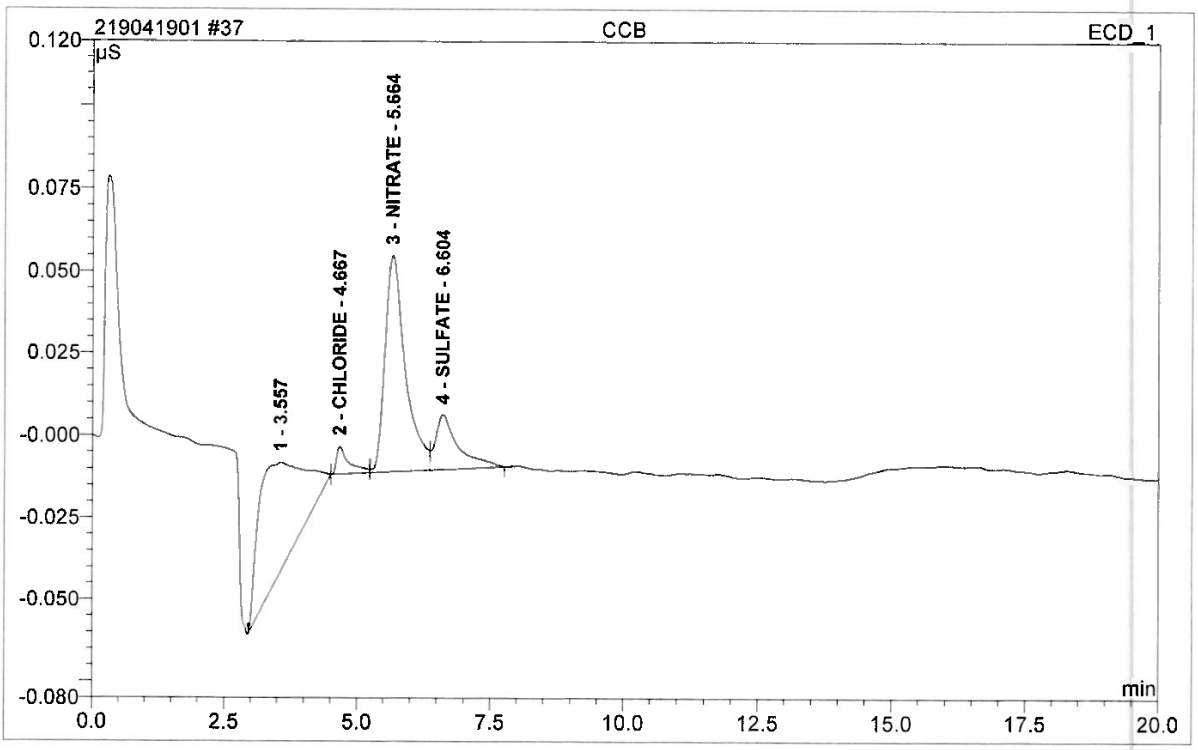
Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 20:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	9.362	1.426	1.29	3.065	BMB
2	4.62	CHLORIDE	329.527	58.907	53.39	197.866	BM
3	5.73	NITRATE	9.356	1.917	1.74	2.905	M
4	6.30	SULFATE	138.950	43.901	39.79	199.254	Mb
5	8.34	BROMIDE	7.465	1.758	1.59	14.186	bMB
6	10.05	n.a.	6.222	1.934	1.75	n.a.	BMB
7	14.27	n.a.	0.449	0.482	0.44	n.a.	BMB
Total:			501.332	110.324	100.00	417.276	

37 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 20:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

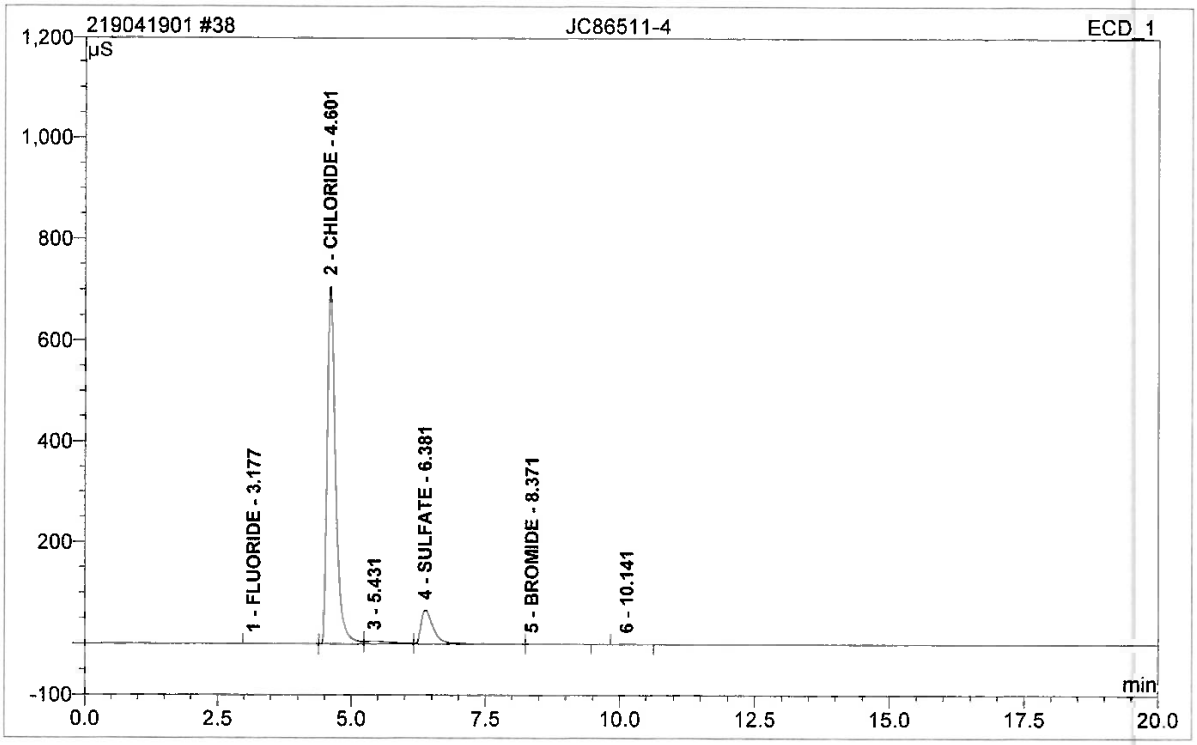


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.56	n.a.	0.033	0.033	45.83	n.a.	BMB
2	4.67	CHLORIDE	0.008	0.002	3.09	0.008	bM
3	5.66	NITRATE	0.066	0.029	39.91	0.044	M
4	6.60	SULFATE	0.017	0.008	11.16	0.037	MB
Total:			0.124	0.073	100.00	0.088	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

38 JC86511-4

Sample Name:	**JC86511-4**	*Injection Volume:*	**20.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 20:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



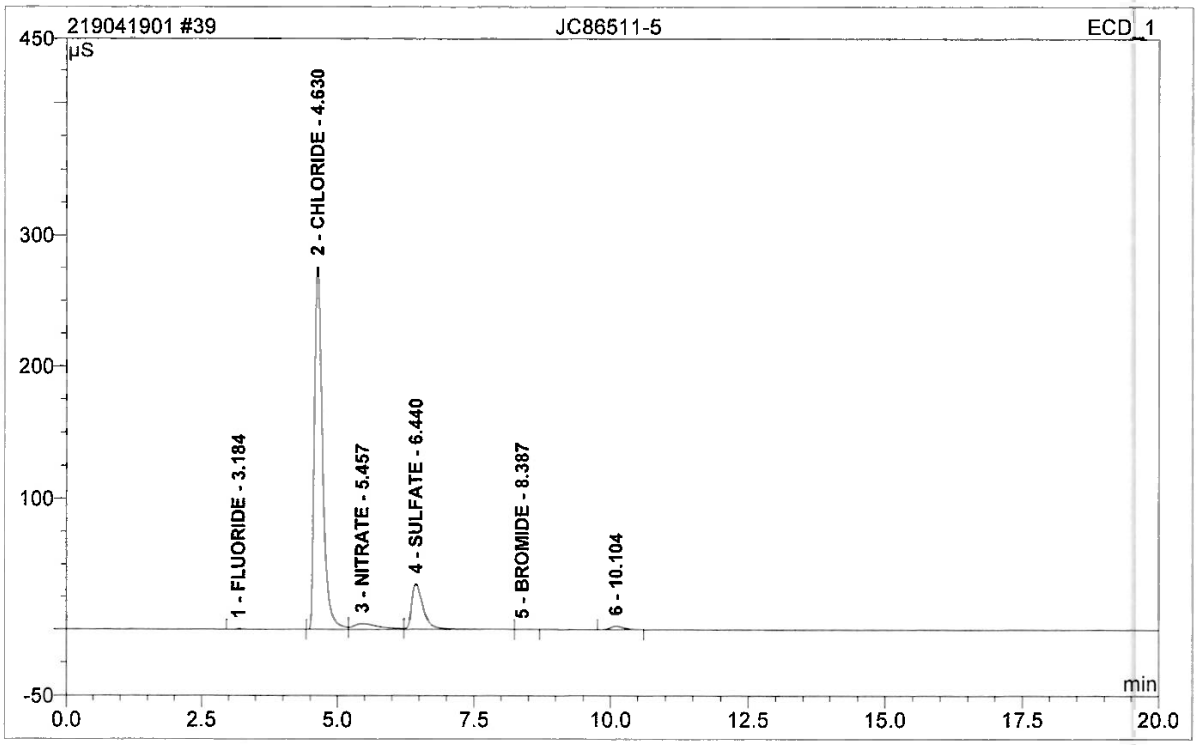
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.607	0.118	0.08	0.254	BMB
2	4.60	CHLORIDE	706.050	128.909	85.89	433.004	BM
3	5.43	n.a.	5.413	2.995	2.00	n.a.	M
4	6.38	SULFATE	65.901	17.765	11.84	80.629	M
5	8.37	BROMIDE	0.207	0.112	0.07	0.904	MB
6	10.14	n.a.	0.690	0.191	0.13	n.a.	BMB
Total:			778.868	150.090	100.00	514.791	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

39 JC86511-5

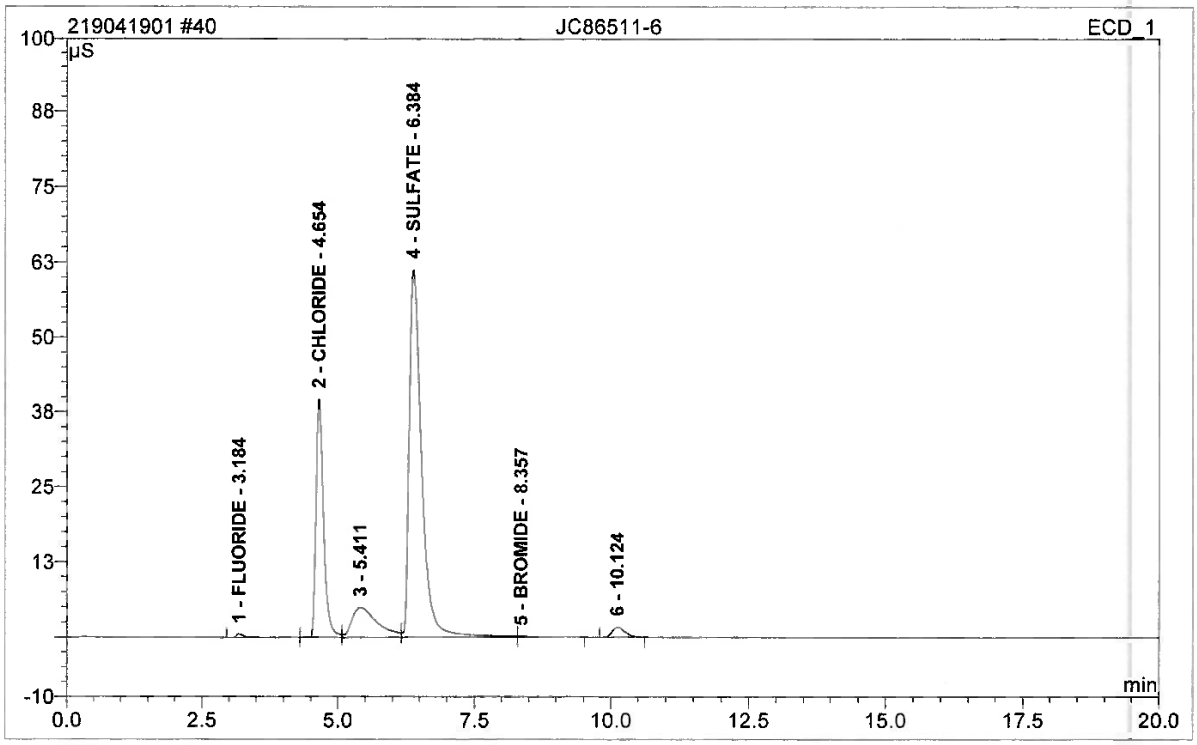
Sample Name:	**JC86511-5**	*Injection Volume:*	**20.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 21:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.409	0.090	0.15	0.193	BMB
2	4.63	CHLORIDE	275.946	47.991	80.48	161.200	BM
3	5.46	NITRATE	4.381	2.333	3.91	3.535	M
4	6.44	SULFATE	34.507	8.506	14.26	38.607	Mb
5	8.39	BROMIDE	0.033	0.007	0.01	0.057	bMB
6	10.10	n.a.	2.549	0.706	1.18	n.a.	BMB
Total:			317.825	59.632	100.00	203.592	

40 JC86511-6

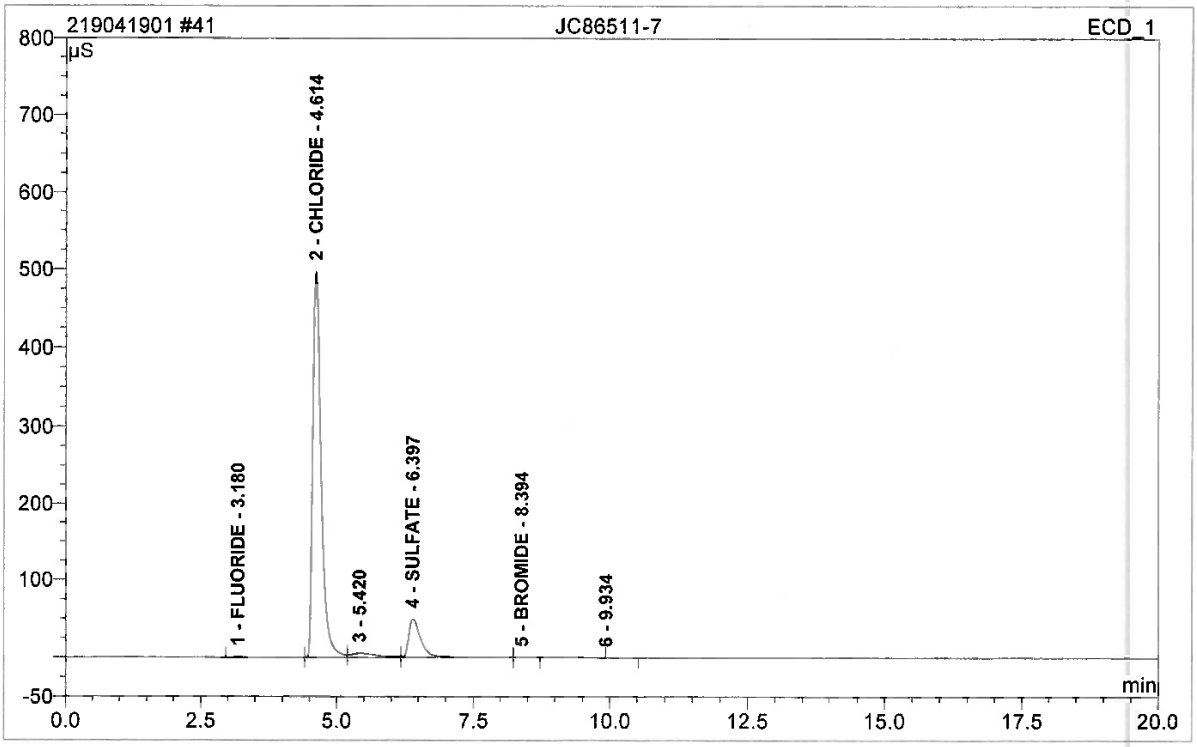
Sample Name:	**JC86511-6**	*Injection Volume:*	**20.0**
Vial Number:	**31**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 21:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.576	0.127	0.49	0.272	BM
2	4.65	CHLORIDE	39.682	6.354	24.62	21.341	M
3	5.41	n.a.	4.898	2.670	10.34	n.a.	M
4	6.38	SULFATE	61.309	16.143	62.54	73.269	M
5	8.36	BROMIDE	0.126	0.064	0.25	0.519	MB
6	10.12	n.a.	1.655	0.453	1.76	n.a.	BMB
Total:			108.246	25.811	100.00	95.402	

41 JC86511-7

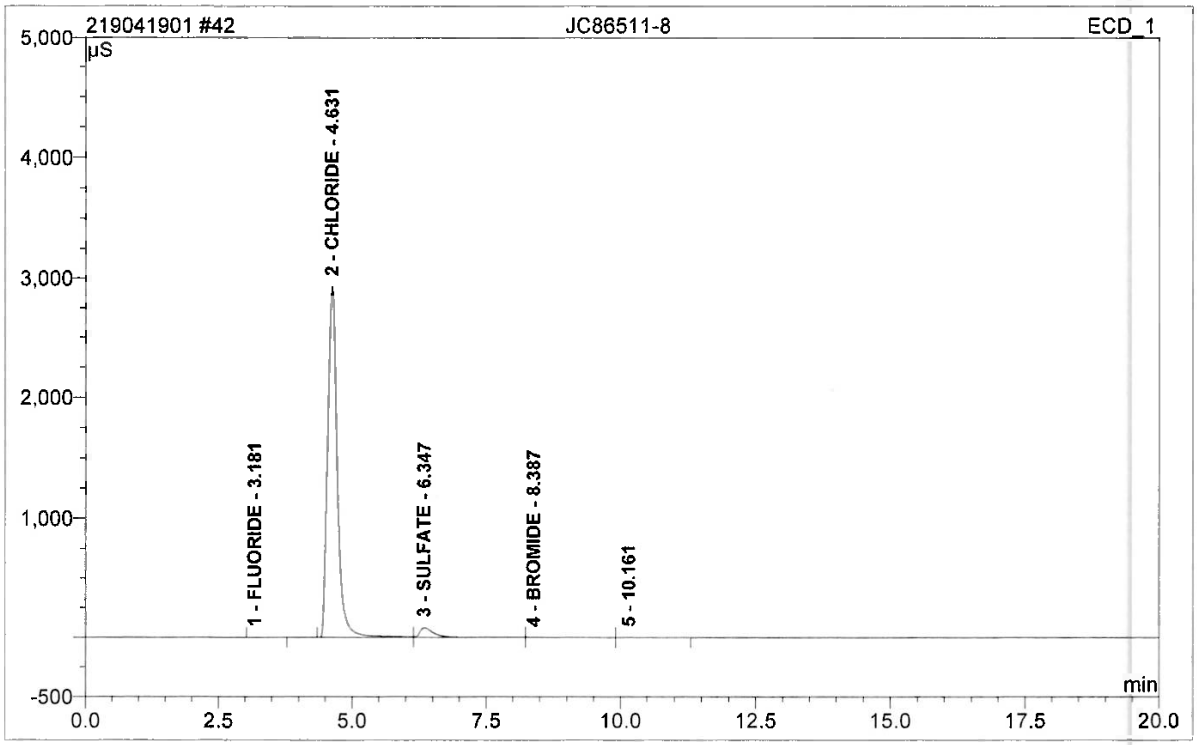
Sample Name:	**JC86511-7**	*Injection Volume:*	**20.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 21:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.832	0.150	0.14	0.322	BMB
2	4.61	CHLORIDE	497.057	89.199	84.93	299.617	BM
3	5.42	n.a.	5.294	2.952	2.81	n.a.	M
4	6.40	SULFATE	49.501	12.714	12.11	57.704	Mb
5	8.39	BROMIDE	0.059	0.013	0.01	0.101	bMB
6	9.93	n.a.	0.000	0.002	0.00	n.a.	BMB
Total:			552.742	105.029	100.00	357.744	

42 JC86511-8

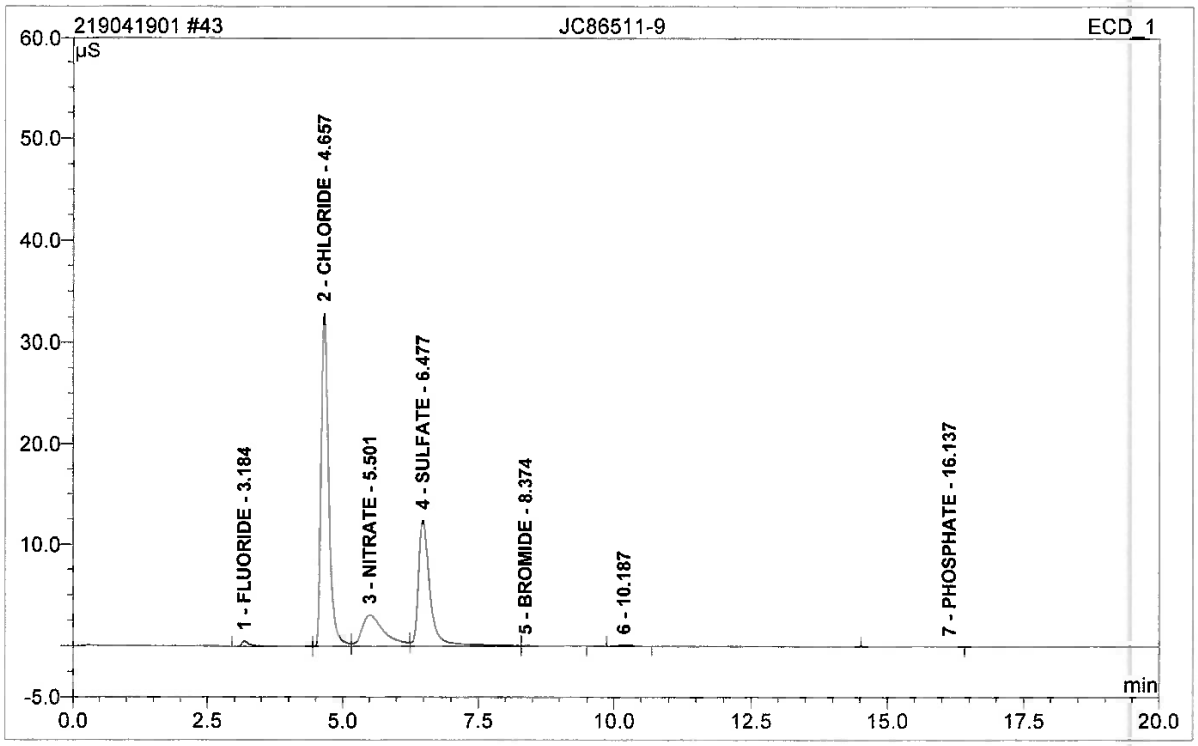
Sample Name:	**JC86511-8**	*Injection Volume:*	**20.0**
Vial Number:	**33**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 22:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.242	0.045	0.01	0.097	BMB
2	4.63	CHLORIDE	2926.616	616.420	95.82	2070.541	BM
3	6.35	SULFATE	80.755	25.494	3.96	115.710	M
4	8.39	BROMIDE	1.051	1.042	0.16	8.411	M
5	10.16	n.a.	0.541	0.284	0.04	n.a.	MB
Total:			3009.204	643.285	100.00	2194.759	

43 JC86511-9

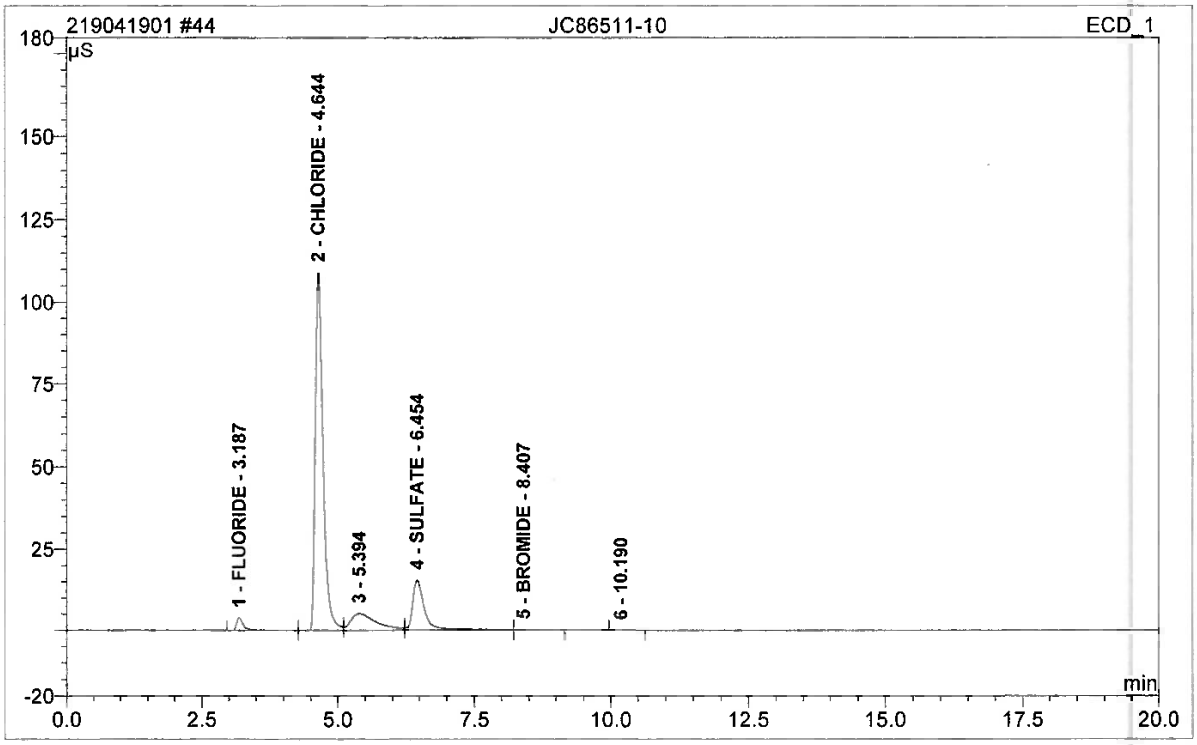
Sample Name:	**JC86511-9**	*Injection Volume:*	**20.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 22:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.527	0.107	1.06	0.229	BMB
2	4.66	CHLORIDE	32.904	5.337	53.18	17.927	bM
3	5.50	NITRATE	3.029	1.445	14.40	2.190	M
4	6.48	SULFATE	12.417	3.081	30.70	13.983	M
5	8.37	BROMIDE	0.051	0.025	0.25	0.206	MB
6	10.19	n.a.	0.131	0.037	0.37	n.a.	BMB
7	16.14	PHOSPHATE	0.002	0.003	0.03	0.015	BMB
Total:			49.060	10.036	100.00	34.550	

44 JC86511-10

Sample Name:	**JC86511-10**	*Injection Volume:*	**20.0**
Vial Number:	**35**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 23:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

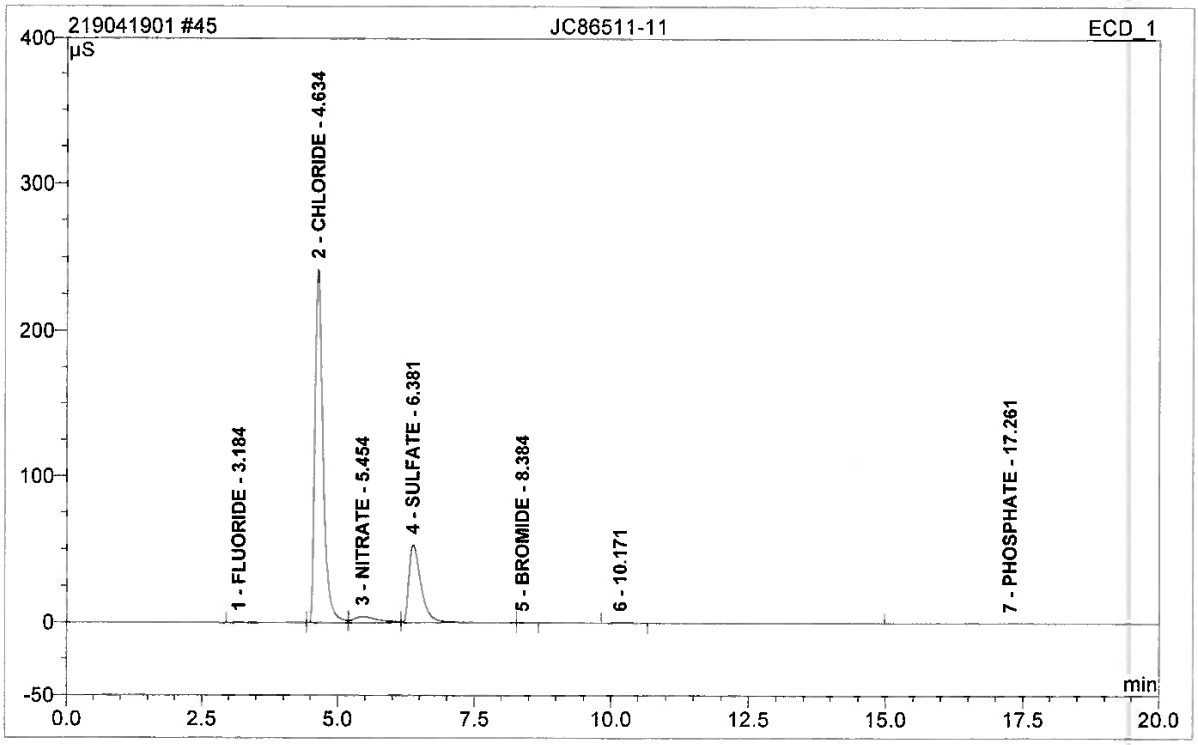


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	3.889	0.602	2.36	1.295	BM
2	4.64	CHLORIDE	108.967	18.026	70.73	60.550	M
3	5.39	n.a.	5.109	2.841	11.15	n.a.	M
4	6.45	SULFATE	15.431	3.964	15.55	17.990	M
5	8.41	BROMIDE	0.128	0.050	0.20	0.407	MB
6	10.19	n.a.	0.014	0.004	0.02	n.a.	BMB
Total:			133.537	25.488	100.00	80.242	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

45 JC86511-11

Sample Name:	**JC86511-11**	*Injection Volume:*	**20.0**
Vial Number:	**36**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 23:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



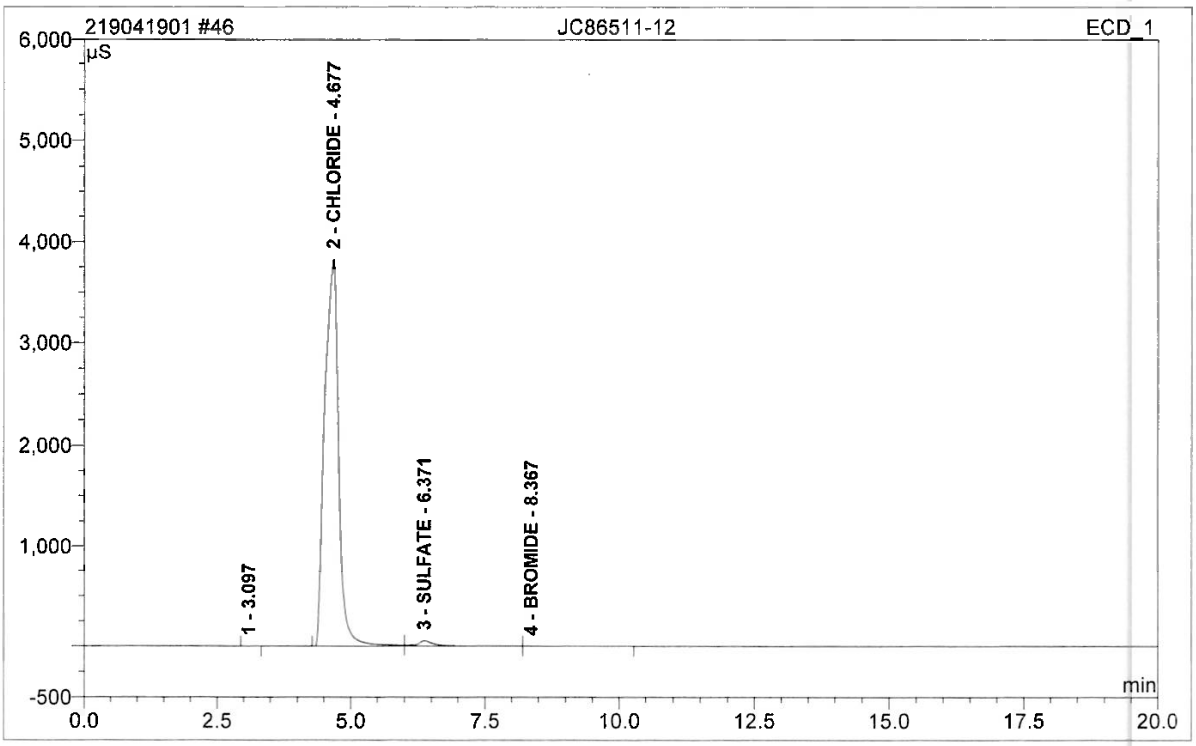
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.384	0.086	0.15	0.185	BMB
2	4.63	CHLORIDE	241.740	42.031	72.16	141.183	BM
3	5.45	NITRATE	4.070	2.104	3.61	3.188	M
4	6.38	SULFATE	53.097	13.735	23.58	62.339	Mb
5	8.38	BROMIDE	0.018	0.004	0.01	0.031	bMB
6	10.17	n.a.	0.508	0.142	0.24	n.a.	BMB
7	17.26	PHOSPHATE	0.050	0.145	0.25	0.785	BMB
Total:			299.868	58.247	100.00	207.711	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

46 JC86511-12

Sample Name:	**JC86511-12**	*Injection Volume:*	**20.0**
Vial Number:	**37**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 23:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

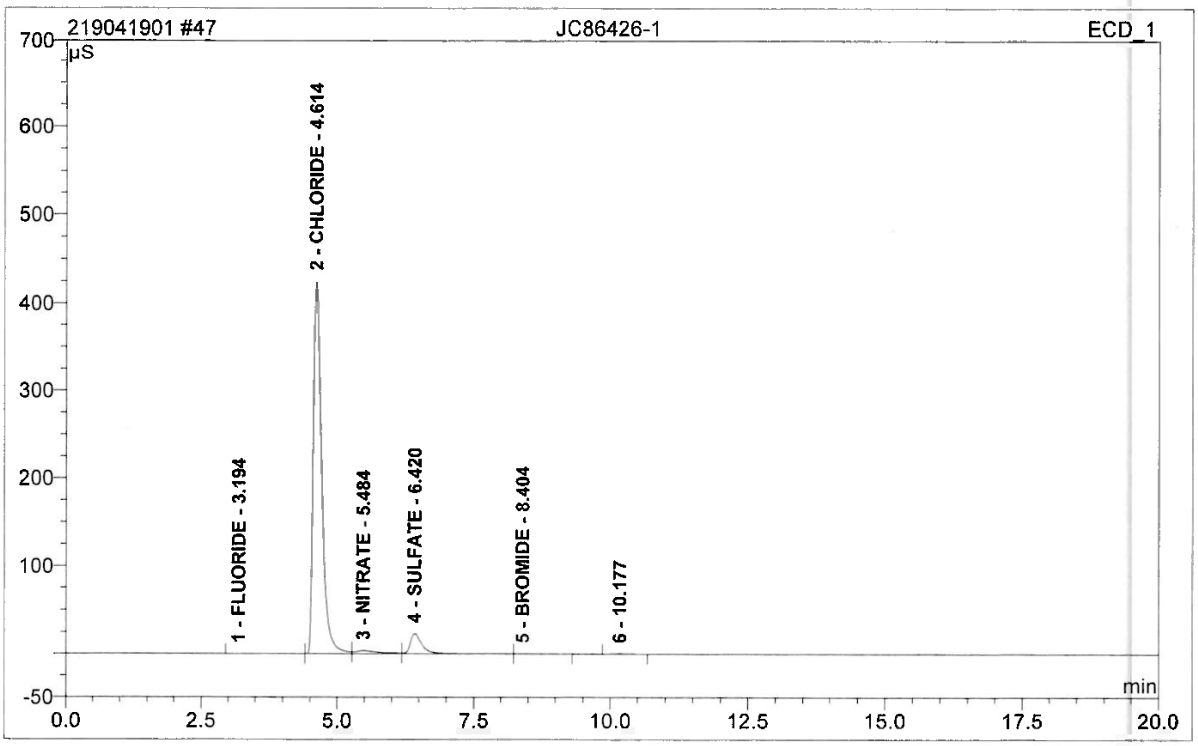


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.10	n.a.	0.085	0.019	0.00	n.a.	BMB
2	4.68	CHLORIDE	3824.170	1158.531	98.08	3891.479	BM
3	6.37	SULFATE	52.655	21.311	1.80	96.725	M
4	8.37	BROMIDE	1.572	1.360	0.12	10.978	MB
Total:			3878.483	1181.221	100.00	3999.182	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

47 JC86426-1

Sample Name:	**JC86426-1**	*Injection Volume:*	**20.0**
Vial Number:	**41**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**2.0000**
Recording Time:	**4/20/2019 0:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	0.081	0.036	0.04	0.156	BMB
2	4.61	CHLORIDE	424.368	76.906	90.65	516.649	BM
3	5.48	NITRATE	3.443	1.780	2.10	5.394	M
4	6.42	SULFATE	23.121	5.955	7.02	54.053	M
5	8.40	BROMIDE	0.126	0.059	0.07	0.955	MB
6	10.18	n.a.	0.379	0.107	0.13	n.a.	BMB
Total:			451.518	84.842	100.00	577.206	

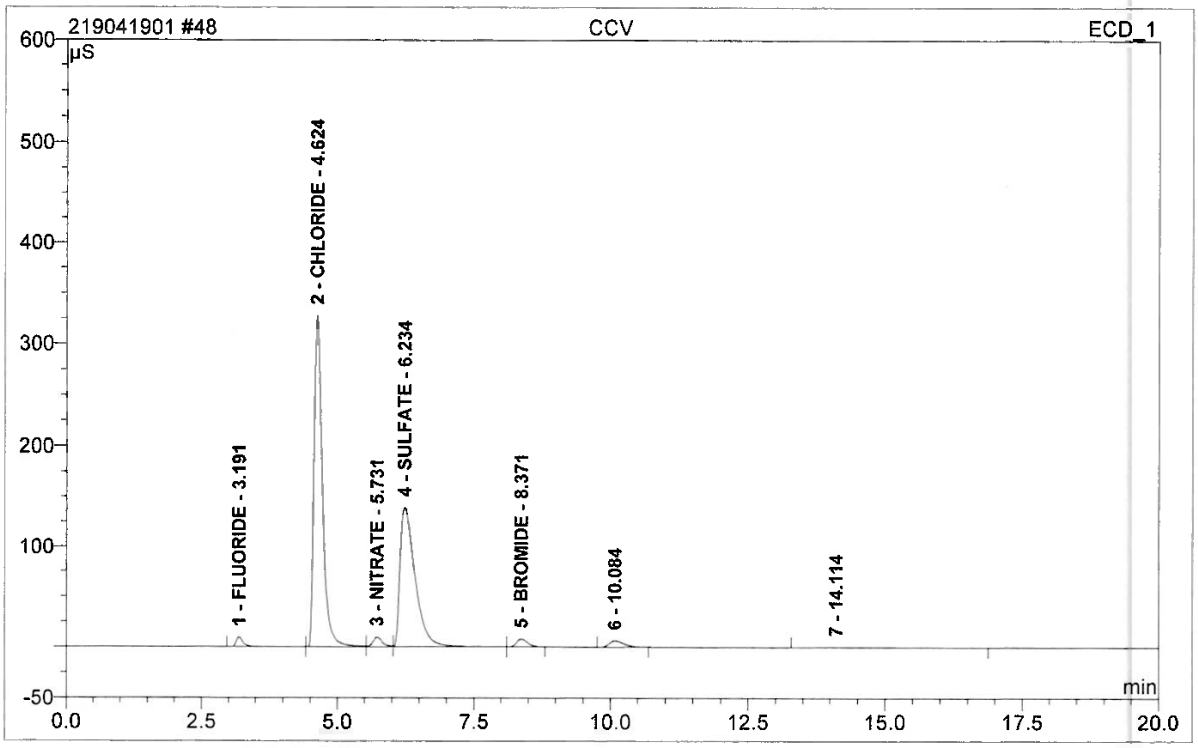
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

48 CCV

Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**38**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/20/2019 0:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	9.231	1.425	1.29	3.063	BMB
2	4.62	CHLORIDE	327.579	59.036	53.40	198.302	BM
3	5.73	NITRATE	9.291	1.882	1.70	2.851	M
4	6.23	SULFATE	139.231	44.046	39.84	199.911	Mb
5	8.37	BROMIDE	7.425	1.766	1.60	14.251	bMB
6	10.08	n.a.	6.115	1.934	1.75	n.a.	BMB
7	14.11	n.a.	0.358	0.465	0.42	n.a.	BMB
Total:			499.231	110.555	100.00	418.379	

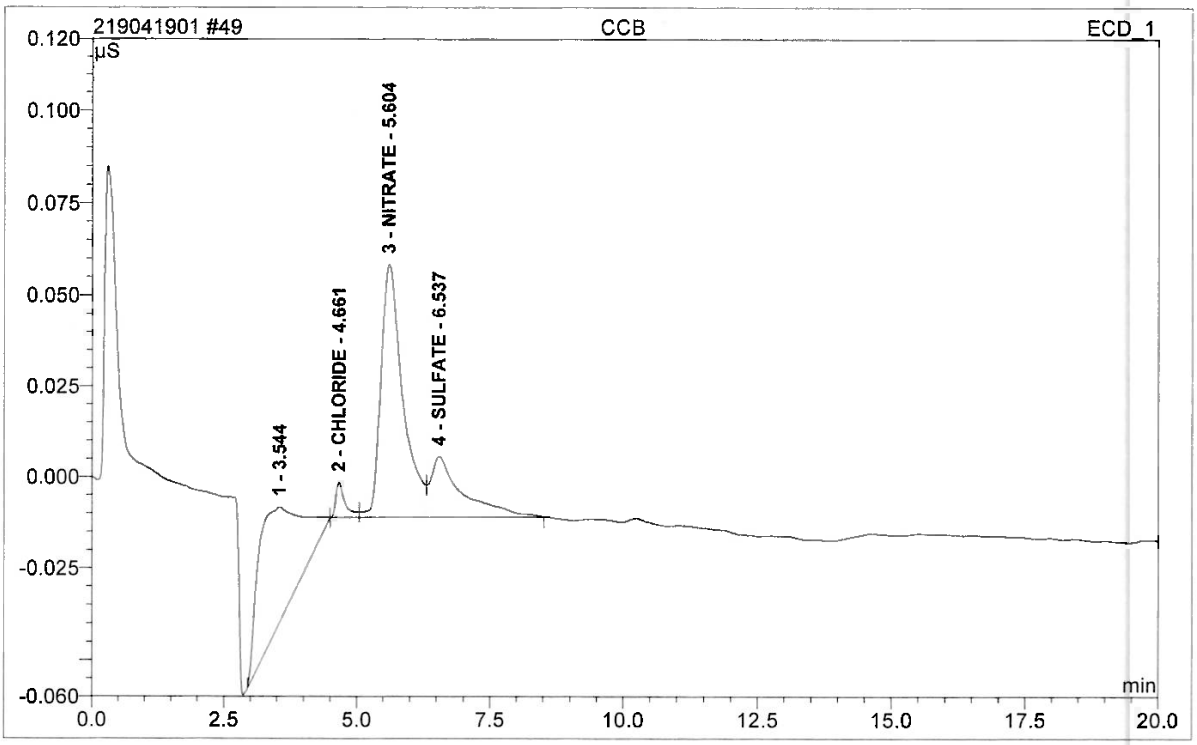
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

49 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**39**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/20/2019 1:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.54	n.a.	0.031	0.030	39.23	n.a.	BMB
2	4.66	CHLORIDE	0.010	0.002	2.58	0.007	bM
3	5.60	NITRATE	0.069	0.033	43.08	0.050	M
4	6.54	SULFATE	0.017	0.012	15.11	0.053	MB
Total:			0.127	0.077	100.00	0.110	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: E90419W1.TXT Date Analyzed: 04/19/19 Methods: SM5310 B-11
Analyst: CD Run ID: GN94326

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: CD Date 4/22/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date 4/22/19

C:\TOC-L\Data\e90419w1.toc.tlx

	Type	Sample Name	Sample ID	Origin	Manual Diluti	Result	Comment	Status
1	Unknown	WASHCONF		TOCAQ.met	1.000	NPOC:-0.07		Completed
2	Unknown	CRI		TOCAQ.met	1.000	NPOC:1.02		Completed
3	Unknown	HSTD		TOCAQ.met	1.000	NPOC:47.7		Completed
4	Unknown	ICV		TOCAQ.met	1.000	NPOC:18.8		Completed
5	Unknown	ICB		TOCAQ.met	1.000	NPOC:0.10		Completed
6	Unknown	CCV		TOCAQ.met	1.000	NPOC:23.4		Completed
7	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.13		Completed
8	Unknown	SPARGERCHK		TOCAQ.met	1.000	NPOC:0.11		Completed
9	Unknown	GP20738-MB1	TOC	TOCAQ.met	1.000	NPOC:0.03		Completed
10	Unknown	GP20738-B1		TOCAQ.met	1.000	NPOC:9.82		Completed
11	Unknown	JC86426-1		TOCAQ.met	1.000	NPOC:0.82		Completed
12	Unknown	JC86461-2		TOCAQ.met	1.000	NPOC:3.68		Completed
13	Unknown	GP20738-S1	JC86461-2	TOCAQ.met	1.000	NPOC:14.4		Completed
14	Unknown	GP20738-MSD1	JC86461-2	TOCAQ.met	1.000	NPOC:14.3		Completed
15	Unknown	JC86461-7		TOCAQ.met	1.000	NPOC:2.53		Completed
16	Unknown	JC86461-8		TOCAQ.met	1.000	NPOC:1.16		Completed
17	Unknown	JC86037-1		TOCAQ.met	1.000	NPOC:3.92		Completed
18	Unknown	CCVA		TOCAQ.met	1.000	NPOC:47.8		Completed
19	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.21		Completed
20	Unknown	JC86058-1		TOCAQ.met	1.000	NPOC:0.58		Completed
21	Unknown	JC86059-1		TOCAQ.met	1.000	NPOC:0.65		Completed
22	Unknown	JC86512-8		TOCAQ.met	1.000	NPOC:1.91		Completed
23	Unknown	JC86512-10		TOCAQ.met	1.000	NPOC:0.61		Completed
24	Unknown	JC86510-1		TOCAQ.met	1.000	NPOC:0.38		Completed
25	Unknown	GP20739-MB1	TOC	TOCAQ.met	1.000	NPOC:0.03		Completed
26	Unknown	GP20739-B1		TOCAQ.met	1.000	NPOC:9.99		Completed
27	Unknown	JC86156-1		TOCAQ.met	1.000	NPOC:1.39		Completed
28	Unknown	GP20739-S1	JC86156-1	TOCAQ.met	1.000	NPOC:12.2		Completed
29	Unknown	GP20739-MSD1	JC86156-1	TOCAQ.met	1.000	NPOC:12.3		Completed
30	Unknown	CCV		TOCAQ.met	1.000	NPOC:23.4		Completed
31	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.21		Completed
32	Unknown	JC86200-3		TOCAQ.met	1.000	NPOC:0.14		Completed
33	Unknown	JC86251-2		TOCAQ.met	1.000	NPOC:7.36		Completed
34	Unknown	JC86299-1		TOCAQ.met	1.000	NPOC:1.16		Completed
35	Unknown	JC86344-11		TOCAQ.met	1.000	NPOC:0.36		Completed
36	Unknown	JC86387-1		TOCAQ.met	1.000	NPOC:10.5		Completed
37	Unknown	JC86387-2		TOCAQ.met	1.000	NPOC:1.97		Completed
38	Unknown	JC86387-3		TOCAQ.met	1.000	NPOC:1.66		Completed
39	Unknown	JC86387-4		TOCAQ.met	1.000	NPOC:1.29		Completed
40	Unknown	GP20740-MB1	TOC	TOCAQ.met	1.000	NPOC:0.22		Completed
41	Unknown	GP20740-B1		TOCAQ.met	1.000	NPOC:9.93		Completed
42	Unknown	CCVA		TOCAQ.met	1.000	NPOC:47.5		Completed
43	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.26		Completed
44	Unknown	JC86344-1		TOCAQ.met	1.000	NPOC:0.77		Completed
45	Unknown	JC86344-2		TOCAQ.met	1.000	NPOC:0.51		Completed
46	Unknown	JC86344-3		TOCAQ.met	1.000	NPOC:0.48		Completed
47	Unknown	JC86344-4		TOCAQ.met	1.000	NPOC:0.46		Completed
48	Unknown	JC86344-5		TOCAQ.met	1.000	NPOC:0.34		Completed
49	Unknown	JC86344-6		TOCAQ.met	1.000	NPOC:0.43		Completed
50	Unknown	GP20740-S1	JC86344-6	TOCAQ.met	1.000	NPOC:11.5		Completed
51	Unknown	GP20740-MSD1	JC86344-6	TOCAQ.met	1.000	NPOC:11.6		Completed

4/22/2019 9:55:06 AM

GN94326 e90419w1.toc CZ 4/22/19

1/4

13.9 13

C:\TOC-L\Data\e90419w1.toc.tlx

	Type	Sample Name	Sample ID	Origin	Manual Diluti	Result	Comment	Status
52	Unknown	JC86344-7		TOCAQ.met	1.000	NPOC:0.67		Completed
53	Unknown	JC86344-8		TOCAQ.met	1.000	NPOC:0.83		Completed
54	Unknown	CCV		TOCAQ.met	1.000	NPOC:23.4		Completed
55	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.03		Completed
56	Unknown	JC86344-9		TOCAQ.met	1.000	NPOC:0.72		Completed
57	Unknown	JC86344-10		TOCAQ.met	1.000	NPOC:0.51		Completed
58	Unknown	GP20741-MB1	TOC	TOCAQ.met	1.000	NPOC:0.18		Completed
59	Unknown	GP20741-B1		TOCAQ.met	1.000	NPOC:9.91		Completed
60	Unknown	JC86461-3		TOCAQ.met	1.000	NPOC:2.79		Completed
61	Unknown	JC86461-4		TOCAQ.met	1.000	NPOC:0.88		Completed
62	Unknown	JC86461-5		TOCAQ.met	1.000	NPOC:1.53		Completed
63	Unknown	GP20741-S1	JC86461-5	TOCAQ.met	1.000	NPOC:11.8		Completed
64	Unknown	GP20741-MSD1	JC86461-5	TOCAQ.met	1.000	NPOC:12.3		Completed
65	Unknown	JC86461-6		TOCAQ.met	1.000	NPOC:4.72		Completed
66	Unknown	CCVA		TOCAQ.met	1.000	NPOC:47.5		Completed
67	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.24		Completed
68	Unknown	JC86461-9		TOCAQ.met	1.000	NPOC:2.46		Completed
69	Unknown	JC86461-10		TOCAQ.met	1.000	NPOC:2.36		Completed
70	Unknown	JC86398-1		TOCAQ.met	1.000	NPOC:11.0		Completed
71	Unknown	JC86398-2		TOCAQ.met	1.000	NPOC:6.81		Completed
72	Unknown	CCV		TOCAQ.met	1.000	NPOC:23.6		Completed
73	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.25		Completed
74	Unknown	SPARGERCHK		TOCAQ.met	1.000	NPOC:0.25		Completed

GN94326 e90419w1.toc
CD 4/22/19

13.9
13

SGS

GN Batch ID: GN94326
Date: 4/19/19

Test: Total Organic Carbon
Product: TOC or DOC
Method: SM5310 B, C, or D-11, SW846 9060M

e90419w1toc

Note: Refer to raw data and LIMS for information not shown below.

Autosampler Position #	Sample ID	pH	Dilution Factor	Bottle #	Comments
1	WASHCONF	2			
2	CRI				
3	HSTD				
4	ICV				
5	ICB				
6	CCV				
7	CCB				
8	SPARGERCHK				
9	GP20738-MB1 TOC				
10	GP20738-B1				
11	JC86426-1			11	
12	JC86461-2			9	
13	GP20738-S1			9	JC86461-2
14	GP20738-MS01			9	JC86461-2
15	JC86461-7			7	
16	JC86461-8			7	
17	JC86037-1			6	
18	CCVA				
19	CCB				
20	JC86058-1			2	
21	JC86059-1			3	
22	JC86512-8			13	
23	JC86512-10			10	
24	JC86510-1			5	
25	GP20739 MB1 TOC				
26	GP20739 B1				
27	JC86156-1			1	

Analyst: CXO Date: 4/19/19 QCReviewer: _____ Date: _____

Comments: BSP: 500ul of 1000ppm KHP → 50ml of DI H2O TV = 10 mg/L
MS/MSD: 200ul of 1000ppm KHP → 20ml of sample TV = 10 mg/L
ICV: 5ml of 100ppm sucrose → 25ml of DI H2O TV = 20 mg/L

Form: GN054-04
Rev. Date: 2/27/18

SGS

GN Batch ID: GN94326
Date: 4/19/19

Test: **Total Organic Carbon**
Product: **TOC or DOC**
Method: **SM5310 B, C, or D-11, SW846 9060M**

Note: Refer to raw data and LIMS for information not shown below.

Autosampler Position #	Sample ID	pH	Dilution Factor	Bottle #	Comments
28	GP20739 S1	4.2		1	JC86156-1
29	GP20739 MSD1			1	JC86156-1
30	CCV				
31	CCB				
32	JC86200-3			4	
33	JC86251-2			4	
34	JC86299-1			2	
35	JC86344-11			7	
36	JC86387-1			5	
37	JC86387-2			5	
38	JC86387-3			5	
39	JC86387-4			5	
40	GP20740 MB1	TOC			
41	GP20740 B1				
42	CCVA				
43	CCB				
44	JC86344-1			6	
45	JC86344-2			6	
46	JC86344-3			6	
47	JC86344-4			6	
48	JC86344-5			6	
49	JC86344-6			18	
50	GP20740 S1			18	JC86344-6
51	GP20740 MSD1			18	JC86344-6
52	JC86344-7			6	
53	JC86344-8			6	
54	CCV				

Analyst: CZD Date: 4/19/19 QCReviewer: _____ Date: _____
Comments:

Form: GN054-04
Rev. Date: 2/27/18

SGS

GN Batch ID: GN94321
Date: 4/19/19

Test: Total Organic Carbon
Product: TOC or DOC
Method: SM5310 B, C, or D-11, SW846 9060M
Note: Refer to raw data and LIMS for information not shown below.

Autosampler Position #	Sample ID	pH	Dilution Factor	Bottle #	Comments
55	CCB	2			
56	JC86344-9			6	
57	JC86344-10			6	
58	GP20741 MB1	TOC			
59	GP20741 B1				
60	JC86461-3			7	
61	JC86461-4			7	
62	JC86461-5			7	
63	GP20741 S1			7	JC86461-5
64	GP20741 MSD1			7	JC86461-5
65	JC86461-6			7	
66	CCVA				
67	CCB				
68	JC86461-9			7	
69	JC86461-10			7	
70	JC86398-1			8	
71	JC86382			8	
72	CCV				
1	CCB				
2	SPARGERCHK				

Analyst: CZO Date: 4/19/19 QCReviewer: Date: 4/22/19
Comments:

Form: GN054-04
Rev. Date: 2/27/18

SGS

GN94326

Reagent Information Log - TOC/DOC - Water

Reagent	Reagent # or Manufacturer/Lot	Exp. Date
Potassium Hydrogen Phthlate (KHP), Stock Solution 1000 mg/L	GNE3-57653-TOC	6/28/19
Carbonate/Bicarbonate Stock Solution	GNE3-57650-TOC	6/28/19
Sparger-Check Solution	GNE3-57651-TOC	4/25/19
CCV Solution	GNE3-57655-TOC	4/25/19
CCVA Solution (50 ppm)	GNE3-57656-TOC	4/25/19
Spiking Solution	GNE3-57653-TOC	6/28/19
CRI Check	GNE3-57658-TOC	4/25/19
HCl	JT Baker 0000217157	3/20/21
pH Hydron paper	hydrion 232516	11/30/19
Sucrose solution	GNE3-57654-TOC	4/25/19
DOC Filter	IC Millex lot #R8BA17691	n/a

All standards and stocks were made as described in the SOP for this method (circle one): Y or N
If no (N), see attached page for standards prep.

Form: GN087A67-04
Rev. Date: 4/6/18

13.9 13

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG

PRODUCT: Toc

(GN) or GP NUMBER: GN94326

Intermediate Standard Description	Stock used to prepare standard	Stock concentration (mg/L)	Stock volume or weight used with units	Balance/ Autopipet ID (*)	Diluent	Final Volume (ml)	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
GNE3-57653-Toc	acros A0376652	KHP	2.125g	B-39	DI H_2O	1000mL	1000 ppm	6/28/19	CZD	3/28/19
GNE3-57657 Toc	GNE3-57653-Toc	1000ppm	20mL	class A pipet	↓	200mL	100 ppm	4/25/19	↓	↓
GNE3-57654 Toc	Fisher 173322	sucrose	0.0474g	B-39	↓	200mL	100 ppm	↓	↓	↓

Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration (mg/L)	Intermediate or Stock volume used in ml	Balance/ Autopipet ID (*)	Diluent	Final Volume (ml)	Final Conc. of Standard (mg/l)	Expiration Date	Analyst	Date
KHP STDs										
GNE3-57658 Toc	GNE3-57657Toc	100ppm	1.0	class A pipet	DI H_2O	100mL	1.0	4/25/19	CZD	3/28/19
GNE3-57659 Toc	↓	↓	2.0	↓	↓	↓	2.0	↓	↓	↓
GNE3-57660 Toc			5.0				5.0			
GNE3-57661 Toc			10.0				10.0			
GNE3-57662 Toc			20.0				20.0			
GNE3-57663 Toc			30.0				30.0			
GNE3-57664 Toc	↓	↓	50.0	↓	↓	↓	50.0	↓	↓	↓
KHP STDs										
GNE3-57652 Toc	acros A0383564	KHP	0.2125g	B-39	DI H_2O	100mL	100ppm	4/25/19	CZD	3/28/19
GNE3-57655 Toc	GNE3-57652 Toc	100ppm	50mL	class A pipet	↓	↓	25 ppm	↓	↓	↓
GNE3-57656 Toc	↓	↓	100mL	↓			50 ppm			

* If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the appropriate Accutest ID number.

DAYT-WET-0166-05-FORM-STD PREP
REV: 9/17/18

TOC-Control L Report

e90328w1.toc tlx

Instr.Information

Instrument Options	TOC/ASI/Sparge Kit
Catalyst	Regular Sensitivity

Cal. Curve

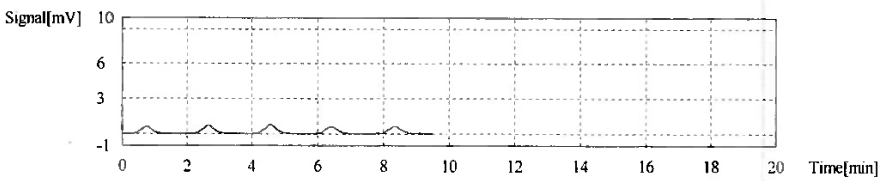
Sample Name	Untitled
Sample ID:	Untitled
Cal. Curve:	e90328w1 2019_03_28_12_56_48 cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.515	100uL	1.000	*******		3/28/2019 1:03:40 PM
2	1.654	100uL	1.000	*******		3/28/2019 1:05:55 PM
3	1.912	100uL	1.000	*******	E	3/28/2019 1:08:10 PM
4	1.508	100uL	1.000	*******		3/28/2019 1:10:25 PM
5	1.487	100uL	1.000	*******		3/28/2019 1:12:40 PM

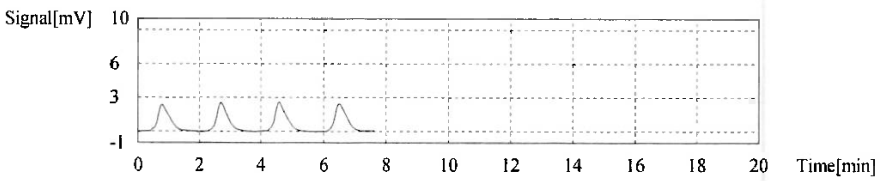
Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 1.541



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.009	100uL	1.000	*******		3/28/2019 1:17:03 PM
2	6.479	100uL	1.000	*******		3/28/2019 1:19:18 PM
3	6.308	100uL	1.000	*******		3/28/2019 1:21:33 PM
4	6.206	100uL	1.000	*******		3/28/2019 1:23:48 PM

Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 6.250



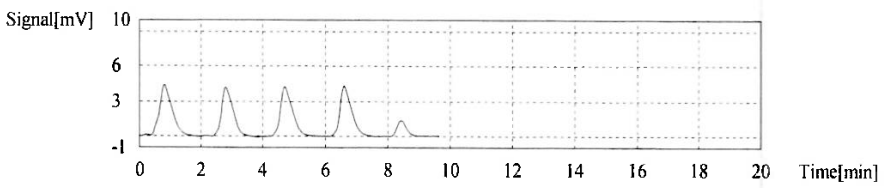
Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	12.85	100uL	1.000	*******		3/28/2019 1:28:31 PM
2	10.98	100uL	1.000	*******		3/28/2019 1:30:46 PM
3	10.96	100uL	1.000	*******		3/28/2019 1:33:01 PM
4	11.04	100uL	1.000	*******		3/28/2019 1:35:17 PM
5	2.692	100uL	1.000	*******	E	3/28/2019 1:37:32 PM

TOC-Control L Report

e90328wl toc tlx

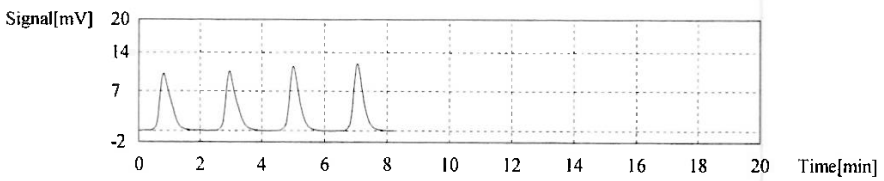
Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 11.46



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	25.54	100uL	1.000	*******		3/28/2019 1:42:10 PM
2	26.15	100uL	1.000	*******		3/28/2019 1:44:32 PM
3	25.63	100uL	1.000	*******		3/28/2019 1:46:56 PM
4	25.79	100uL	1.000	*******		3/28/2019 1:49:16 PM

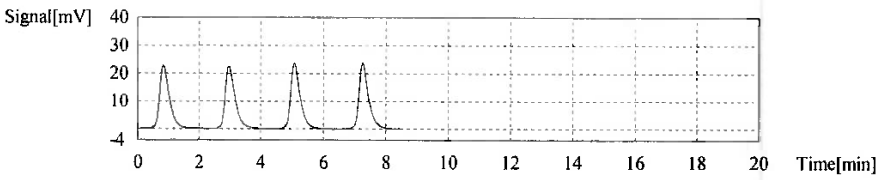
Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 25.78



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	50.01	100uL	1.000	*******		3/28/2019 1:54:08 PM
2	50.45	100uL	1.000	*******		3/28/2019 1:56:35 PM
3	50.31	100uL	1.000	*******		3/28/2019 1:59:06 PM
4	50.28	100uL	1.000	*******		3/28/2019 2:01:30 PM

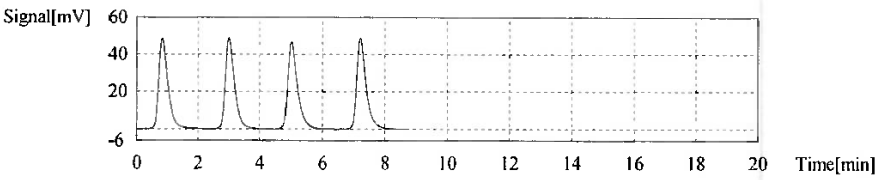
Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 50.26



Conc: 20.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	99.66	100uL	1.000	*******		3/28/2019 2:06:23 PM
2	101.0	100uL	1.000	*******		3/28/2019 2:08:46 PM
3	100.2	100uL	1.000	*******		3/28/2019 2:11:19 PM
4	100.5	100uL	1.000	*******		3/28/2019 2:13:56 PM

Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 100.3



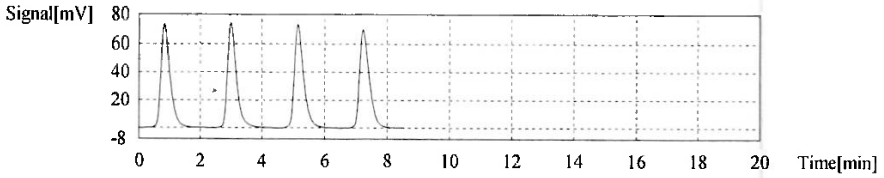
Conc: 30.00mg/L

TOC-Control L Report

e90328w1 toc tlx

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	152.7	100uL	1.000	*******		3/28/2019 2:18:49 PM
2	151.3	100uL	1.000	*******		3/28/2019 2:21:19 PM
3	152.0	100uL	1.000	*******		3/28/2019 2:23:45 PM
4	151.9	100uL	1.000	*******		3/28/2019 2:26:15 PM

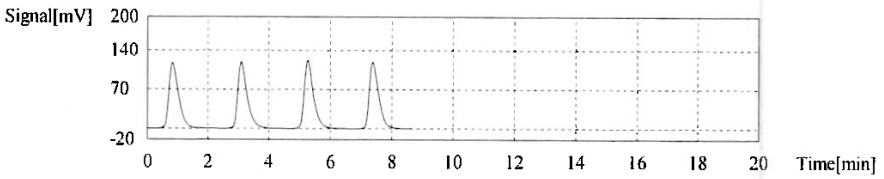
Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 152.0



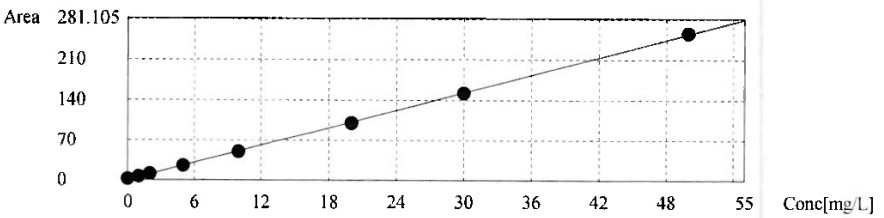
Conc 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	258.0	100uL	1.000	*******		3/28/2019 2:31:15 PM
2	255.7	100uL	1.000	*******		3/28/2019 2:33:46 PM
3	253.7	100uL	1.000	*******		3/28/2019 2:36:13 PM
4	254.8	100uL	1.000	*******		3/28/2019 2:38:40 PM

Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 255.6



Slope: 5.073
Intercept 0.5650
r^2 0.9999
r 0.9999
Zero Shift No



TOC-Control L Report

e90419w1.toc tlx

Instr.Information

Instrument Options: TOC/ASI/Sparge Kit/
Catalyst: Regular Sensitivity

Sample

Sample Name: WASHCONF
Sample ID:
Origin: TOCAQ.met
Status: Completed
Chk. Result:

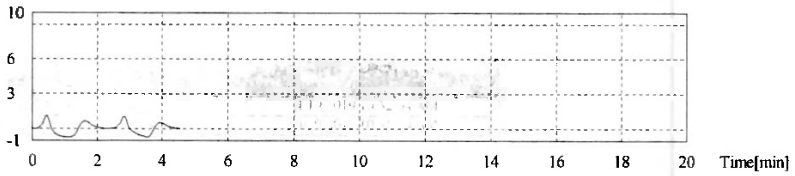
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC -0.07979mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.1668	-0.07849mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:21:27 AM
2	0.1536	-0.08109mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:23:48 AM

Mean Conc. -0.07979mg/L
CV Conc -2.31%



Sample

Sample Name: CRI
Sample ID:
Origin: TOCAQ.met
Status: Completed
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.029mg/L

1. Det

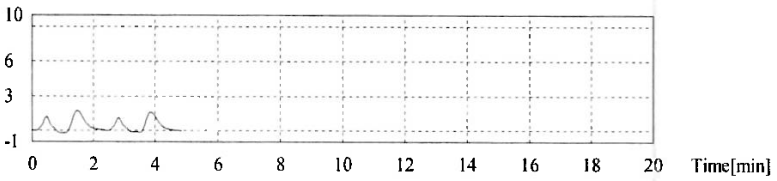
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.868	1.045mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:32:34 AM
2	5.700	1.012mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:35:14 AM

TOC-Control L Report

e90419w1.toc tlx

Mean Conc. 1.029mg/L
CV Conc 2.28%



Sample

Sample Name: HSTD
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

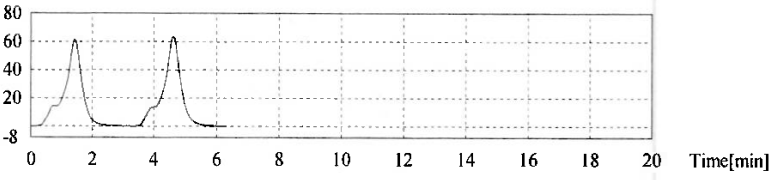
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 47.72mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	242.1	47.61mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:44:35 AM
2	243.2	47.83mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:47:52 AM

Mean Conc. 47.72mg/L
CV Conc 0.32%



Sample

Sample Name: ICV
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 18.85mg/L

1. Det

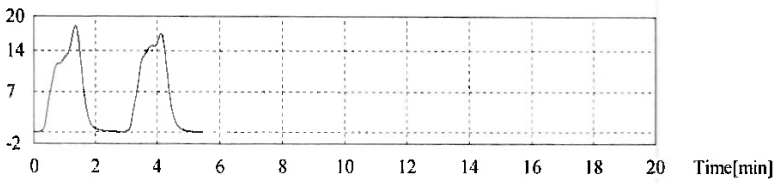
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	96.16	18.84mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:55:19 AM
2	96.23	18.86mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:58:14 AM

TOC-Control L Report

e90419w1.toc tlx

Mean Conc. 18.85mg/L
CV Conc 0.05%



Sample

Sample Name: ICB
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

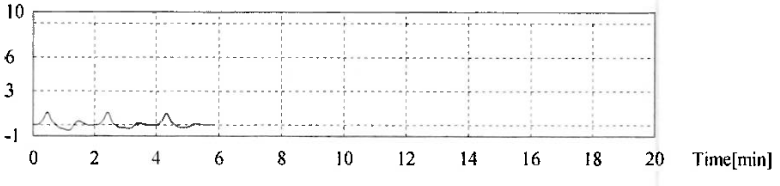
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.1077mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.172	0.1197mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:05:39 AM
2	0.9237	0.07071mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:07:48 AM
3	1.051	0.09580mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:09:53 AM

Mean Conc. 0.1077mg/L
CV Conc 15.66%



Sample

Sample Name: CCV
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 23.47mg/L

1. Det

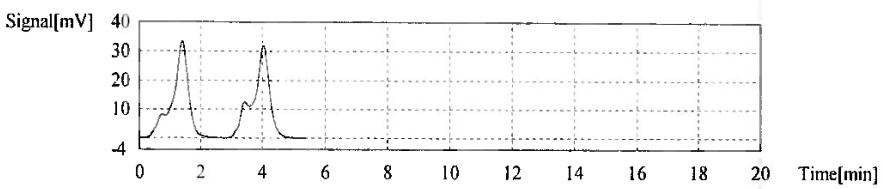
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	119.5	23.44mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:17:31 AM
2	119.8	23.50mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:20:22 AM

TOC-Control L Report

e90419w1.toc.tlx

Mean Conc 23.47mg/L
CV Conc 0.18%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

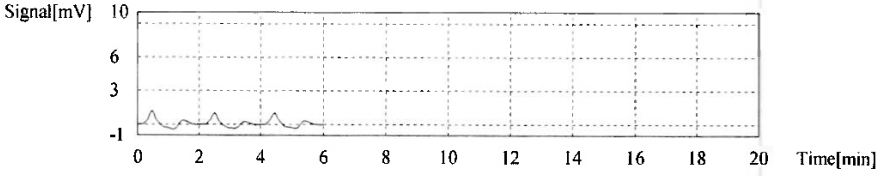
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.1310mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.214	0.1279mg/L	100uL	1.000		e90328w1_2019_03_28_12_56_48.cal	4/19/2019 11:28:03 AM
2	0.9189	0.06976mg/L	100uL	1.000	E	e90328w1_2019_03_28_12_56_48.cal	4/19/2019 11:30:10 AM
3	1.245	0.1340mg/L	100uL	1.000		e90328w1_2019_03_28_12_56_48.cal	4/19/2019 11:32:21 AM

Mean Conc. 0.1310mg/L
CV Conc 3.30%



Sample

Sample Name: SPARGERCHK
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.1128mg/L

1. Det

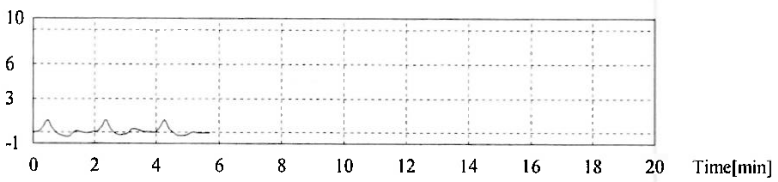
Anal.: NPOC

TOC-Control L Report

e90419w1 toc.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.153	0.1159mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:39:03 AM
2	1.398	0.1642mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:41:12 AM
3	1.121	0.1096mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:43:17 AM

Mean Conc. 0.1128mg/L
CV Conc 3.96%



Sample

Sample Name: GP20738-MB1
Sample ID: TOC
Origin: TOCAQ.met
Status Completed
Chk. Result

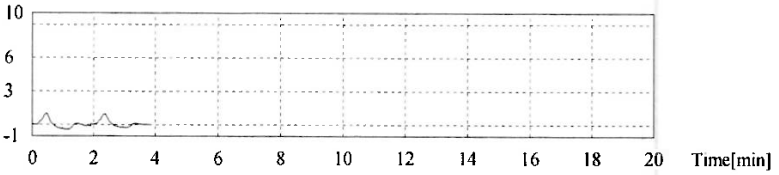
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.03192mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.7028	0.02717mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:50:13 AM
2	0.7510	0.03667mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:52:22 AM

Mean Conc. 0.03192mg/L
CV Conc 21.05%



Sample

Sample Name: GP20738-B1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 9.829mg/L

1. Det

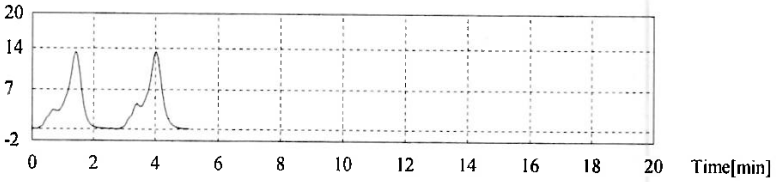
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	50.30	9.804mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 12:02:08 PM
2	50.56	9.855mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 12:04:43 PM

Mean Conc. 9.829mg/L
CV Conc 0.37%



Sample

Sample Name: JC86426-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

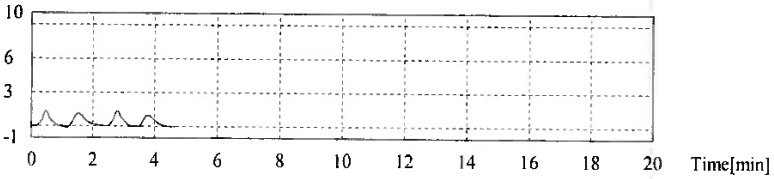
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.8246mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.692	0.8135mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:15:57 PM
2	4.805	0.8358mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:18:28 PM

Mean Conc. 0.8246mg/L
CV Conc 1.91%



Sample

Sample Name: JC86461-2
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 3.683mg/L

1. Det

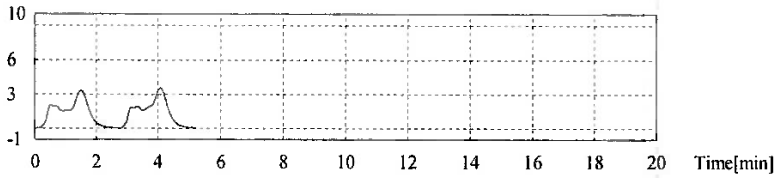
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	19.22	3.677mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:27:25 PM
2	19.28	3.689mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:30:06 PM

Mean Conc. 3.683mg/L
CV Conc 0.23%



Sample

Sample Name: GP20738-S1
Sample ID: JC86461-2
Origin: TOCAQ.met
Status Completed
Chk. Result

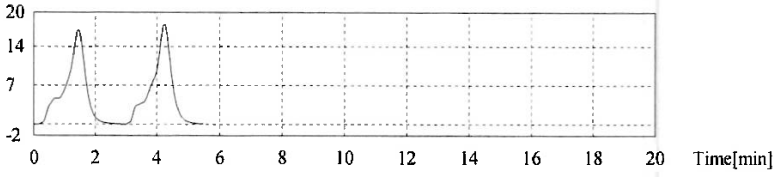
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 14.41mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	73.75	14.43mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:38:46 PM
2	73.61	14.40mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:41:37 PM

Mean Conc. 14.41mg/L
CV Conc 0.14%



Sample

Sample Name: GP20738-MSD1
Sample ID: JC86461-2
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 14.32mg/L

1. Det

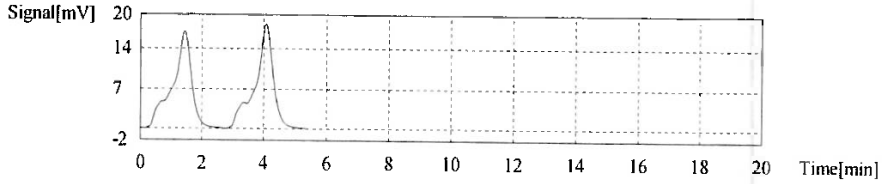
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex	Cal. Curve	Date / Time
1	73.02	14.28mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:49:46 PM
2	73.37	14.35mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:52:41 PM

Mean Conc. 14.32mg/L
CV Conc 0.34%



Sample

Sample Name: JC86461-7
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

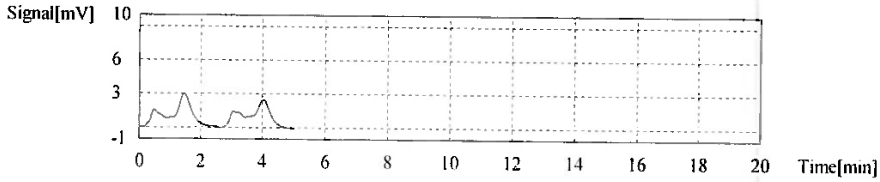
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 2.530mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.72	2.593mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:00:50 PM
2	13.08	2.467mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:03:28 PM

Mean Conc. 2.530mg/L
CV Conc 3.53%



Sample

Sample Name: JC86461-8
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.161mg/L

1. Det

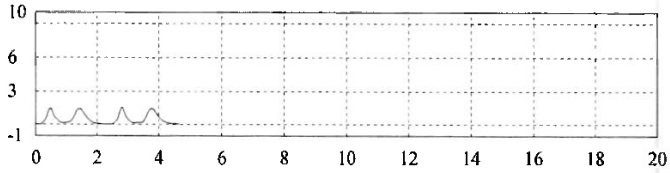
Anal.: NPOC

TOC-Control L Report

e90419w1.toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.591	1.188mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:11:45 PM
2	6.314	1.133mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:14:14 PM

Mean Conc. 1.161mg/L
CV Conc 3.33%



Sample

Sample Name: JC86037-1
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

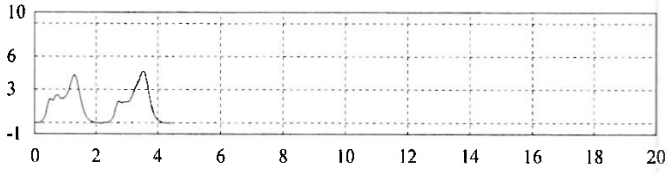
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 3.929mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	20.15	3.861mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:22:48 PM
2	20.85	3.998mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:25:15 PM

Mean Conc. 3.929mg/L
CV Conc 2.48%



Sample

Sample Name: CCVA
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 47.86mg/L

1. Det

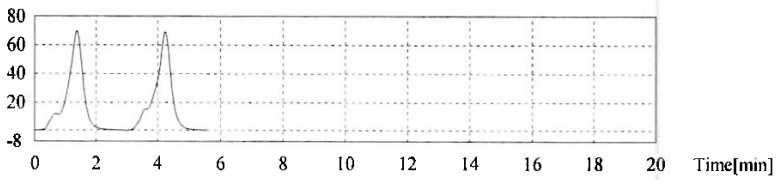
Anal.: NPOC

TOC-Control L Report

e90419w1 toc.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	243.2	47.83mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:34:36 PM
2	243.5	47.89mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:37:31 PM

Mean Conc. 47.86mg/L
CV Conc 0.09%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

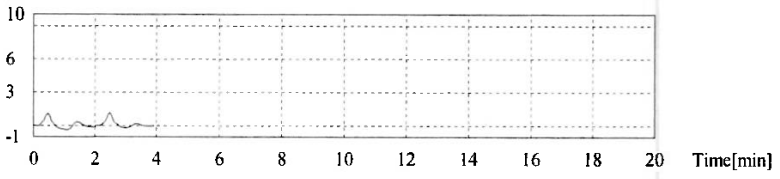
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.2167mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.663	0.2164mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:44:54 PM
2	1.666	0.2170mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:47:03 PM

Mean Conc. 0.2167mg/L
CV Conc 0.19%



Sample

Sample Name: JC86058-1
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.5836mg/L

1. Det

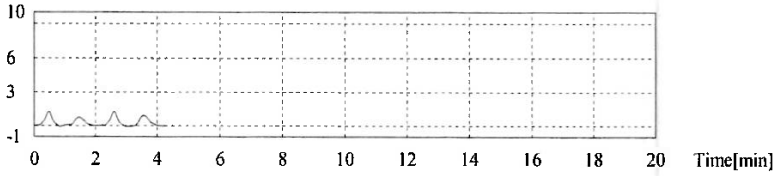
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3 463	0 5712mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3 56 10 PM
2	3 588	0 5959mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3 58 28 PM

Mean Conc. 0.5836mg/L
CV Conc 2.99%



Sample

Sample Name: JC86059-1
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

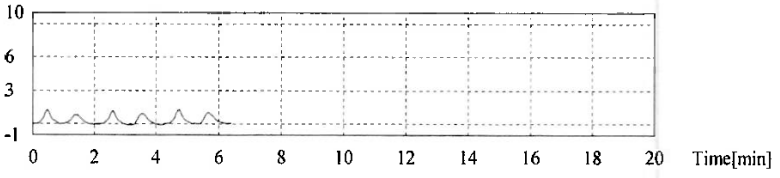
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 0 6595mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4 292	0 7347mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4 07 20 PM
2	3 944	0 6661mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4 09 44 PM
3	3 877	0 6528mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4 12 08 PM

Mean Conc. 0.6595mg/L
CV Conc 1 42%



Sample

Sample Name: JC86512-8
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 1 914mg/L

1. Det

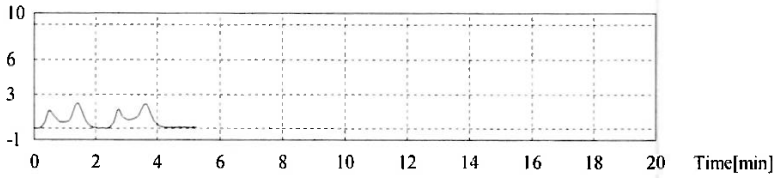
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.952	1.850mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:18:36 PM
2	10.60	1.978mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:21:47 PM

Mean Conc. 1.914mg/L
CV Conc 4.72%



Sample

Sample Name: JC86512-10
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

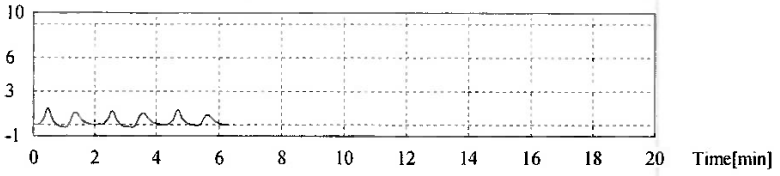
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.6117mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.045	0.6860mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:29:36 PM
2	3.558	0.5900mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:31:54 PM
3	3.778	0.6333mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:34:10 PM

Mean Conc. 0.6117mg/L
CV Conc 5.01%



Sample

Sample Name: JC86510-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.3879mg/L

1. Det

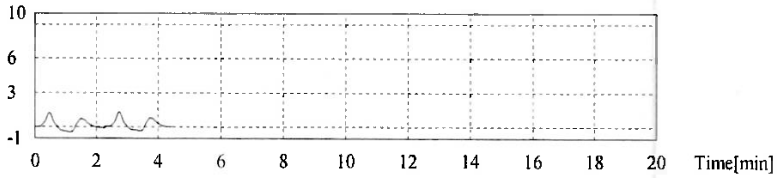
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.602	0.4015mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:40:57 PM
2	2.464	0.3743mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:43:20 PM

Mean Conc. 0.3879mg/L
CV Conc 4.96%



Sample

Sample Name: GP20739-MB1
Sample ID: TOC
Origin: TOCAQ.met
Status Completed
Chk. Result

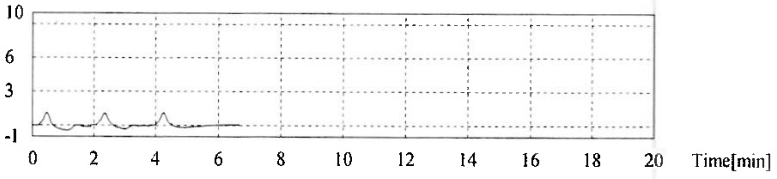
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.03081mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.7558	0.03761mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:51:43 PM
2	0.9330	0.07254mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:53:53 PM
3	0.6868	0.02401mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:56:56 PM

Mean Conc. 0.03081mg/L
CV Conc 31.21%



Sample

Sample Name: GP20739-B1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 9.999mg/L

1. Det

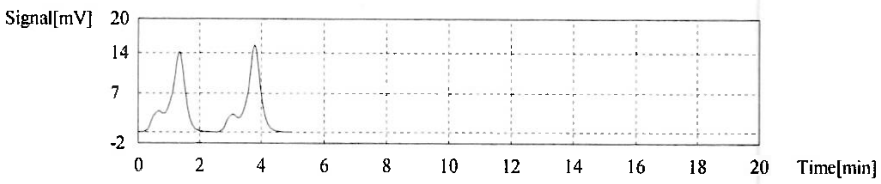
Anal.: NPOC

TOC-Control L Report

e90419w1.toc.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51.29	9.999mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 5:03:25 PM
2	51.29	9.999mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 5:06:08 PM

Mean Conc. 9.999mg/L
CV Conc 0.00%



Sample

Sample Name: JC86156-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

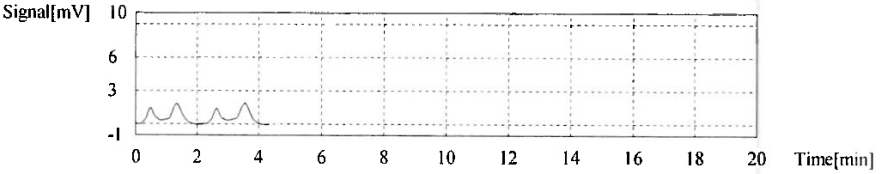
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.398mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.566	1.380mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 5:14:18 PM
2	7.751	1.416mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 5:16:43 PM

Mean Conc. 1.398mg/L
CV Conc 1.84%



Sample

Sample Name: GP20739-S1
Sample ID: JC86156-1
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 12.23mg/L

1. Det

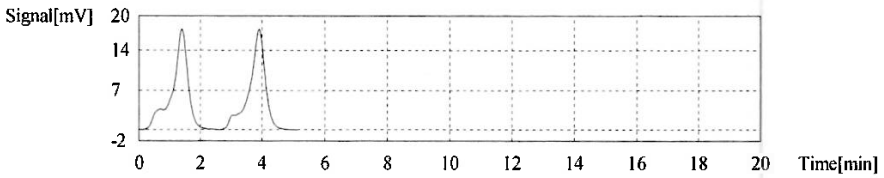
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	62.41	12.19mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5:25:48 PM
2	62.83	12.27mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5:28:34 PM

Mean Conc. 12.23mg/L
CV Conc 0.48%



Sample

Sample Name: GP20739-MSDI
Sample ID: JC86156-1
Origin: TOCAQ.met
Status Completed
Chk. Result

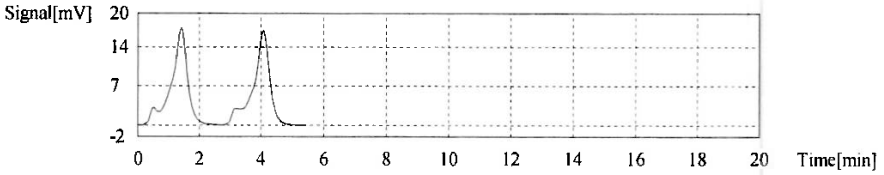
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 12.30mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	63.49	12.40mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5:37:05 PM
2	62.44	12.20mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5:40:02 PM

Mean Conc. 12.30mg/L
CV Conc 1.19%



Sample

Sample Name: CCV
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 23.41mg/L

1. Det

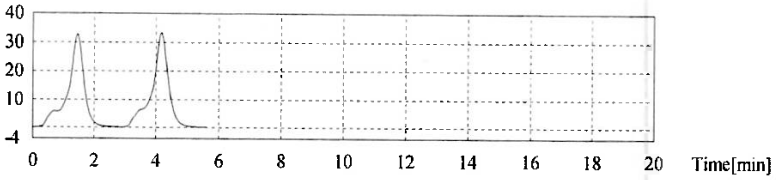
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	118 8	23 31mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5 48 23 PM
2	119 9	23 52mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5 51 28 PM

Mean Conc. 23 41mg/L
CV Conc 0 65%



Sample

Sample Name: CCB
Sample ID:
Origin TOCAQ met
Status Completed
Chk. Result

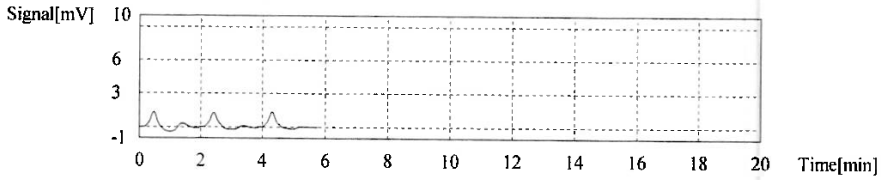
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 0 2157mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1 717	0 2271mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6 07 43 PM
2	1 875	0 2582mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6 09 52 PM
3	1 602	0 2044mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6 12 01 PM

Mean Conc. 0 2157mg/L
CV Conc 7 43%



Sample

Sample Name: JC86200-3
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 0 1460mg/L

1 Det

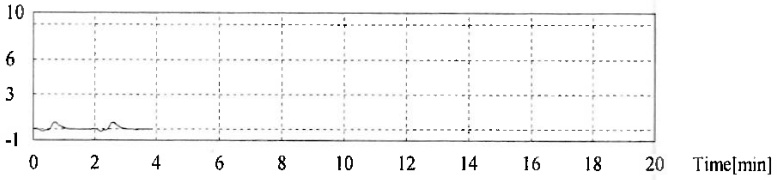
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.324	0.1496mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:18:50 PM
2	1.287	0.1423mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:21:00 PM

Mean Conc. 0.1460mg/L
CV Conc 3.53%



Sample

Sample Name: JC86251-2
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

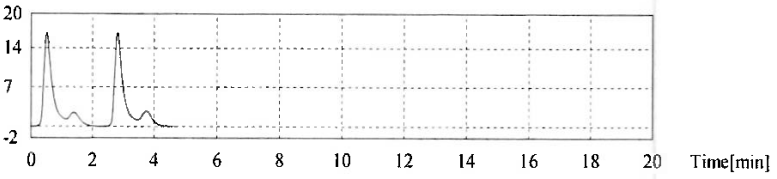
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 7.366mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	37.64	7.308mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:30:25 PM
2	38.23	7.424mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:33:02 PM

Mean Conc. 7.366mg/L
CV Conc 1.12%



Sample

Sample Name: JC86299-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.168mg/L

1. Det

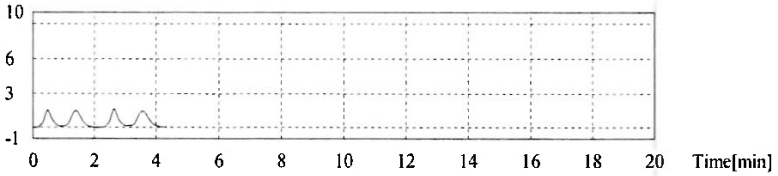
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.516	1.173mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:41:27 PM
2	6.465	1.163mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:43:52 PM

Mean Conc. 1.168mg/L
CV Conc 0.61%



Sample

Sample Name: JC86344-11
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

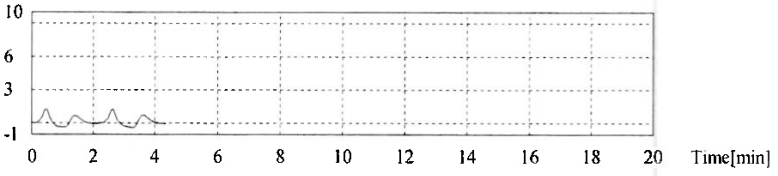
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.3627mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.484	0.3783mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:52:37 PM
2	2.326	0.3471mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:55:03 PM

Mean Conc. 0.3627mg/L
CV Conc 6.07%



Sample

Sample Name: JC86387-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 10.52mg/L

1. Det

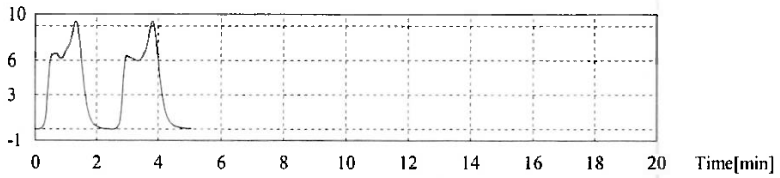
Anal.: NPOC

TOC-Control L Report

e90419w1.toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	53.41	10.42mg/L	100uL	1.000		e90328w1_2019_03_28_12_56_48.cal	4/19/2019 7:04:03 PM
2	54.47	10.63mg/L	100uL	1.000		e90328w1_2019_03_28_12_56_48.cal	4/19/2019 7:06:51 PM

Mean Conc. 10.52mg/L
CV Conc 1.40%



Sample

Sample Name: JC86387-2
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

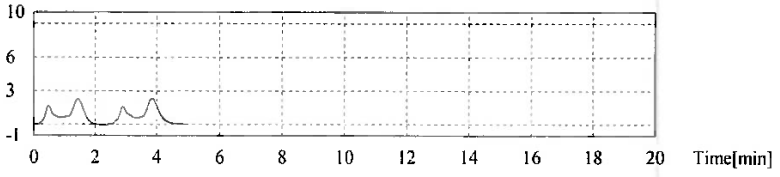
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.970mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.61	1.980mg/L	100uL	1.000		e90328w1_2019_03_28_12_56_48.cal	4/19/2019 7:15:12 PM
2	10.51	1.960mg/L	100uL	1.000		e90328w1_2019_03_28_12_56_48.cal	4/19/2019 7:17:56 PM

Mean Conc. 1.970mg/L
CV Conc 0.71%



Sample

Sample Name: JC86387-3
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.661mg/L

1. Det

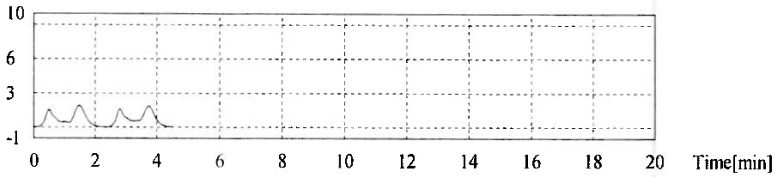
Anal.: NPOC

TOC-Control L Report

e90419w1.toc.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.994	1.661mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 7:26:16 PM
2	8.992	1.661mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 7:28:40 PM

Mean Conc. 1.661mg/L
CV Conc 0.02%



Sample

Sample Name: JC86387-4
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

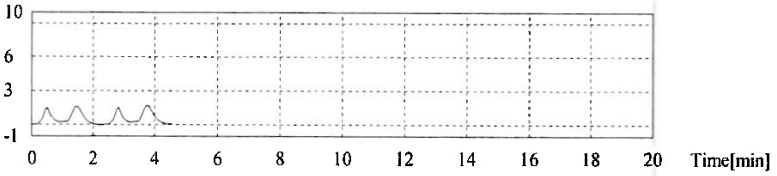
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.296mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.262	1.320mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 7:37:28 PM
2	7.020	1.272mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 7:39:56 PM

Mean Conc. 1.296mg/L
CV Conc 2.60%



Sample

Sample Name: GP20740-MB1
Sample ID: TOC
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.2261mg/L

1. Det

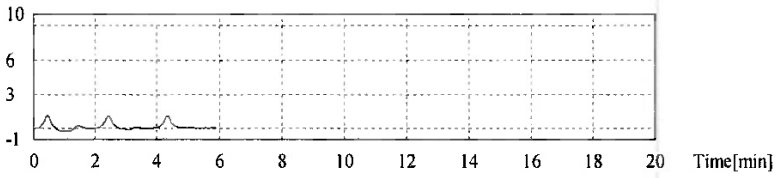
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1 398	0 1642mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 7 48 17 PM
2	1 721	0 2279mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 7 50 27 PM
3	1 703	0 2243mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 7 52 38 PM

Mean Conc. 0.2261mg/L
CV Conc 1.11%



Sample

Sample Name: GP20740-B1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

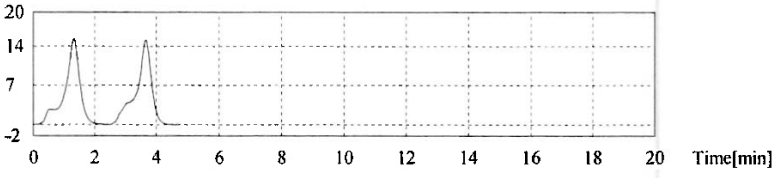
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 9.933mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51 00	9 942mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 7 59 48 PM
2	50 91	9 924mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8 02 23 PM

Mean Conc. 9.933mg/L
CV Conc 0.13%



Sample

Sample Name: CCVA
Sample ID:
Origin. TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 47.51mg/L

1. Det

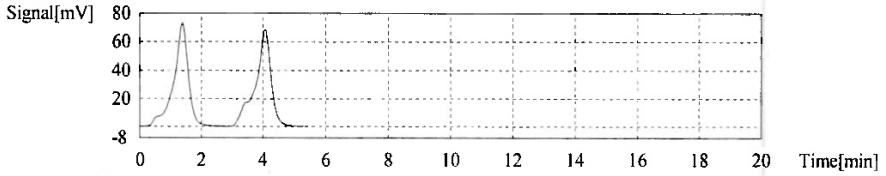
Anal.: NPOC

TOC-Control L Report

e90419w1.toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	240.6	47.31mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:11:21 PM
2	242.6	47.71mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:14:10 PM

Mean Conc. 47.51mg/L
CV Conc 0.59%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

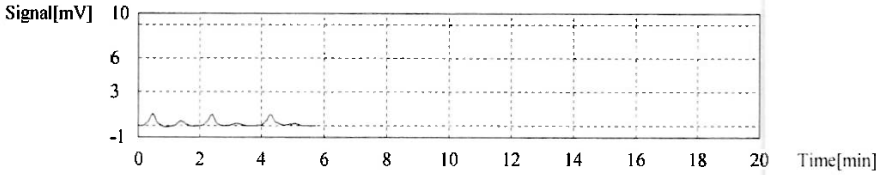
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.2652mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.195	0.3213mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:21:44 PM
2	1.909	0.2649mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:23:49 PM
3	1.912	0.2655mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:25:54 PM

Mean Conc. 0.2652mg/L
CV Conc 0.16%



Sample

Sample Name: JC86344-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.7734mg/L

1. Det

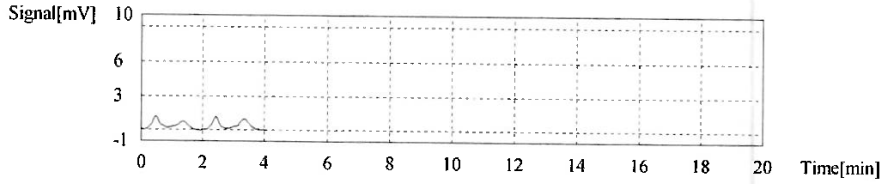
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.465	0.7688mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:32:56 PM
2	4.512	0.7780mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:35:17 PM

Mean Conc. 0.7734mg/L
CV Conc 0.85%



Sample

Sample Name: JC86344-2
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

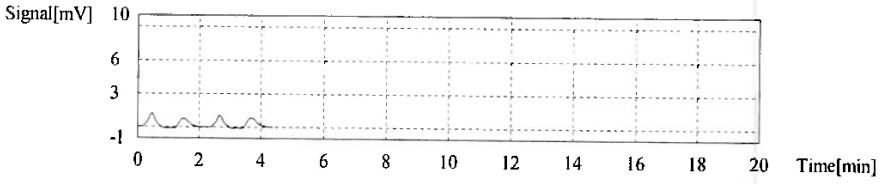
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.5110mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.116	0.5028mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:44:21 PM
2	3.199	0.5192mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:46:47 PM

Mean Conc. 0.5110mg/L
CV Conc 2.26%



Sample

Sample Name: JC86344-3
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.4836mg/L

1. Det

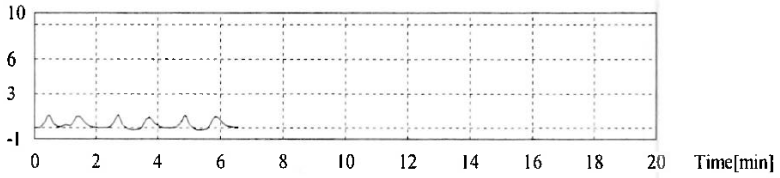
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4 699	0 8149mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8 55 34 PM
2	3 075	0 4948mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8 57 54 PM
3	2 962	0 4725mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9 00 15 PM

Mean Conc. 0.4836mg/L
CV Conc 3.26%



Sample

Sample Name: JC86344-4
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

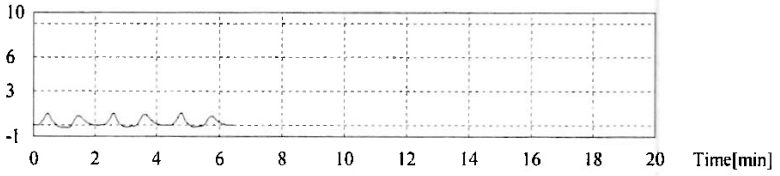
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 0 4615mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3 012	0 4823mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9 06 38 PM
2	3 256	0 5304mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9 09 03 PM
3	2 801	0 4408mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9 11 21 PM

Mean Conc. 0.4615mg/L
CV Conc 6.37%



Sample

Sample Name: JC86344-5
Sample ID:
Origin TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 0 3479mg/L

1. Det

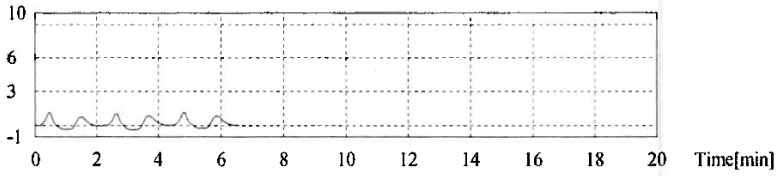
TOC-Control L Report

e90419w1.toc.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.456	0.3727mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:17:50 PM
2	2.204	0.3231mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:20:15 PM
3	2.910	0.4622mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:22:39 PM

Mean Conc. 0.3479mg/L
CV Conc 10.10%



Sample

Sample Name: JC86344-6
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

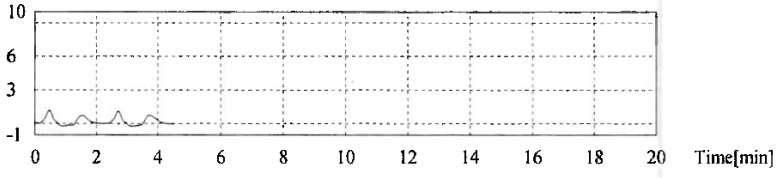
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.4335mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.734	0.4275mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:29:04 PM
2	2.794	0.4394mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:31:32 PM

Mean Conc. 0.4335mg/L
CV Conc 1.93%



Sample

Sample Name: GP20740-S1
Sample ID: JC86344-6
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 11.59mg/L

1. Det

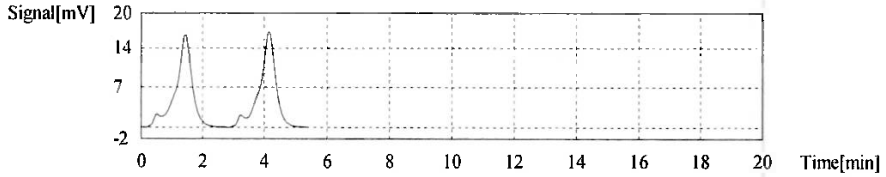
TOC-Control L Report

e90419w1.toc.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	59.14	11.55mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:40:43 PM
2	59.56	11.63mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:43:33 PM

Mean Conc. 11.59mg/L
CV Conc 0.51%



Sample

Sample Name: GP20740-MSD1
Sample ID: JC86344-6
Origin: TOCAQ.met
Status Completed
Chk. Result

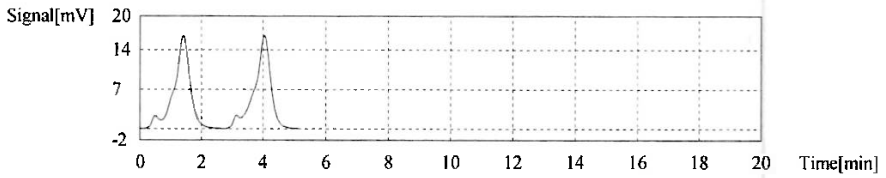
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 11.68mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	59.57	11.63mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:51:48 PM
2	60.05	11.73mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:54:29 PM

Mean Conc. 11.68mg/L
CV Conc 0.57%



Sample

Sample Name: JC86344-7
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.6715mg/L

1. Det

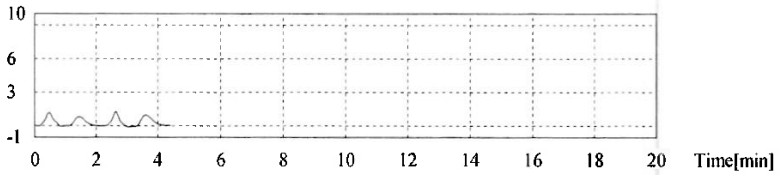
TOC-Control L Report

e90419w1.toc tlx

Anal.: NPOC

No	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.005	0.6781mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:02:31 PM
2	3.938	0.6649mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:05:00 PM

Mean Conc. 0.6715mg/L
CV Conc 1.39%



Sample

Sample Name: JC86344-8
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

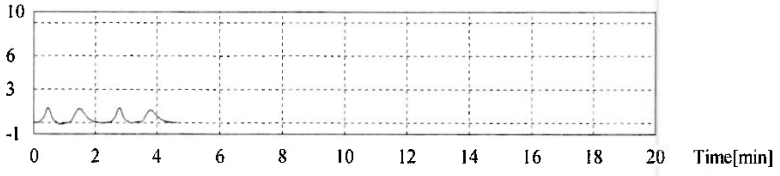
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.8375mg/L

1. Det

Anal.: NPOC

No	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.911	0.8567mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:13:49 PM
2	4.717	0.8184mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:16:23 PM

Mean Conc. 0.8375mg/L
CV Conc 3.23%



Sample

Sample Name: CCV
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 23.47mg/L

1. Det

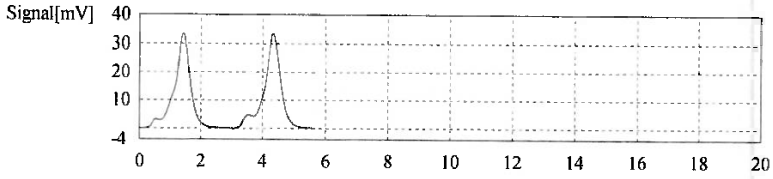
TOC-Control L Report

e90419w1 toc tlx

Anal. NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	119.5	23.44mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:25:36 PM
2	119.8	23.50mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:28:35 PM

Mean Conc. 23.47mg/L
CV Conc 0.18%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

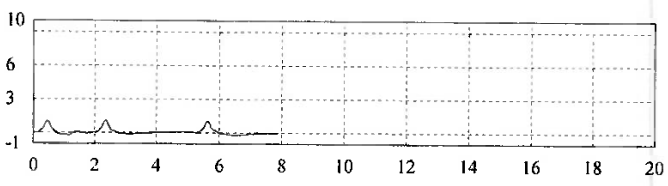
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.03570mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.380	0.1607mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:48:14 PM
2	0.8413	0.05447mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:51:45 PM
3	0.6509	0.01693mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:54:42 PM

Mean Conc. 0.03570mg/L
CV Conc 74.34%



Sample

Sample Name: JC86344-9
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.7283mg/L

1. Det

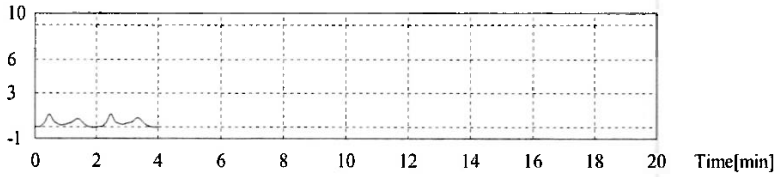
TOC-Control L Report

e90419w1.toc.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.243	0.7250mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:59:31 PM
2	4.277	0.7317mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:01:45 PM

Mean Conc. 0.7283mg/L
CV Conc 0.65%



Sample

Sample Name: JC86344-10
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

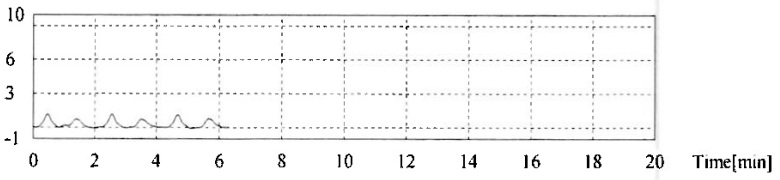
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.5123mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.829	0.6434mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:10:48 PM
2	3.197	0.5188mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:13:10 PM
3	3.131	0.5058mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:15:27 PM

Mean Conc. 0.5123mg/L
CV Conc 1.80%



Sample

Sample Name: GP20741-MB1
Sample ID: TOC
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.1831mg/L

1. Det

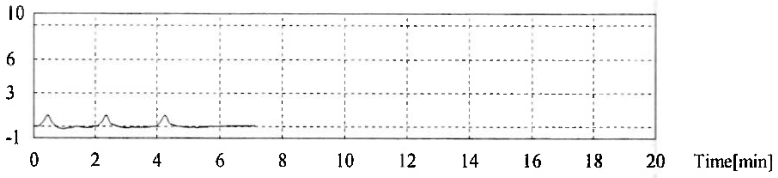
TOC-Control L Report

e90419w1.toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.316	0.1480mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:21:47 PM
2	1.672	0.2182mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:23:56 PM
3	0.9585	0.07757mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:27:26 PM

Mean Conc. 0.1831mg/L
CV Conc 27.10%



Sample

Sample Name: GP20741-B1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

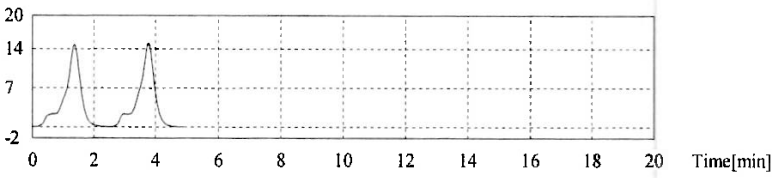
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 9.915mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	50.68	9.878mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:33:30 PM
2	51.05	9.951mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:36:07 PM

Mean Conc. 9.915mg/L
CV Conc 0.52%



Sample

Sample Name: JC86461-3
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 2.795mg/L

1. Det

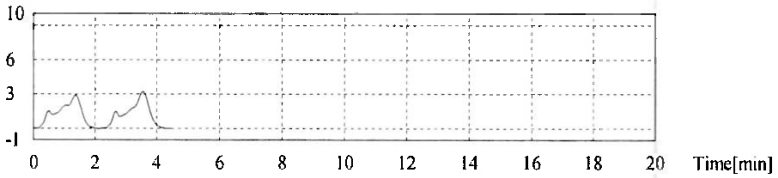
TOC-Control L Report

e90419w1 toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14 72	2 790mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11 44 26 PM
2	14 77	2 800mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11 46 56 PM

Mean Conc. 2 795mg/L
CV Conc 0.25%



Sample

Sample Name: JC86461-4
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

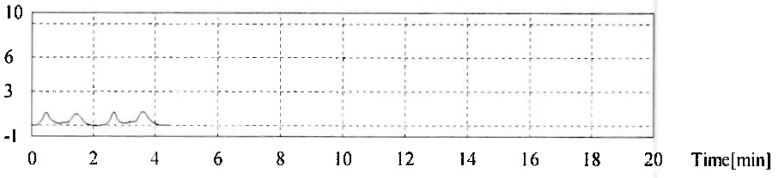
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 0 8896mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5 134	0 9006mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11 55 39 PM
2	5 022	0 8785mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11 58 09 PM

Mean Conc. 0 8896mg/L
CV Conc 1 75%



Sample

Sample Name: JC86461-5
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 1 531mg/L

1. Det

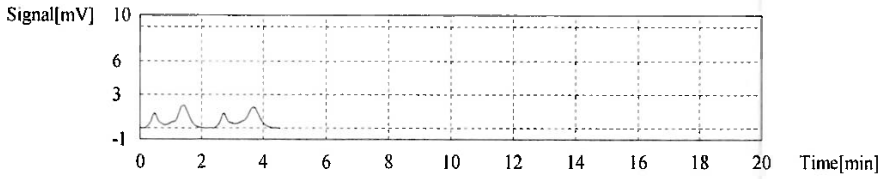
TOC-Control L Report

e90419w1.toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.266	1.518mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/20/2019 12:06:52 AM
2	8.399	1.544mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/20/2019 12:09:20 AM

Mean Conc. 1.531mg/L
CV Conc 1.21%



Sample

Sample Name: GP20741-S1
Sample ID: JC86461-5
Origin: TOCAQ.met
Status Completed
Chk. Result

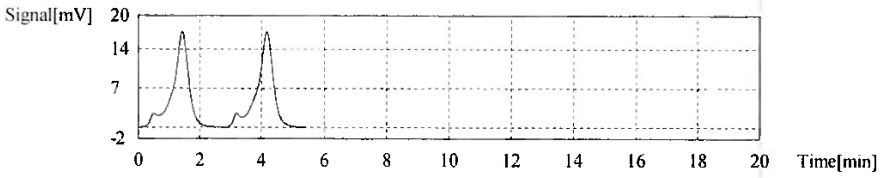
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 11.88mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	60.63	11.84mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/20/2019 12:18:30 AM
2	61.02	11.92mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/20/2019 12:21:23 AM

Mean Conc. 11.88mg/L
CV Conc 0.46%



Sample

Sample Name: GP20741-MSD1
Sample ID: JC86461-5
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 12.31mg/L

1. Det

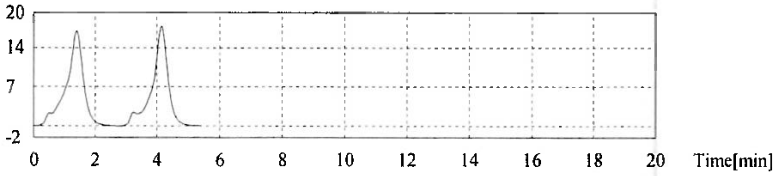
TOC-Control L Report

e90419w1.toc.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	64.37	12.58mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12:29:43 AM
2	61.67	12.04mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12:32:35 AM

Mean Conc. 12.31mg/L
CV Conc 3.06%



Sample

Sample Name: JC86461-6
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

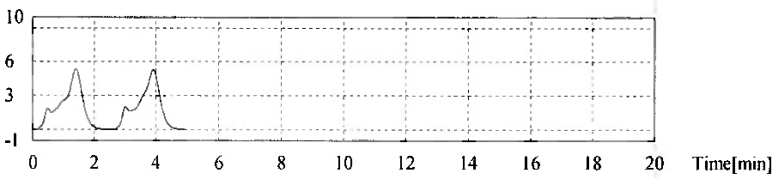
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 4.729mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	24.46	4.710mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12:40:41 AM
2	24.65	4.748mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12:43:16 AM

Mean Conc. 4.729mg/L
CV Conc 0.56%



Sample

Sample Name: CCVA
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 47.55mg/L

1. Det

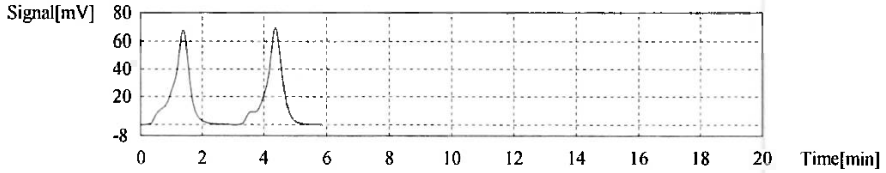
TOC-Control L Report

e90419w1 toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	242 1	47 61mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12 52 19 AM
2	241 5	47 49mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12 55 24 AM

Mean Conc. 47.55mg/L
CV Conc 0.18%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

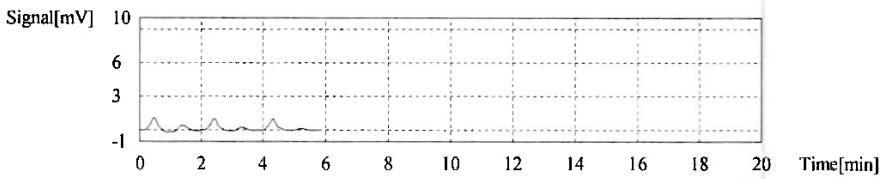
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0 2496mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2 167	0 3158mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1 02 30 AM
2	1 768	0 2371mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1 04 39 AM
3	1 894	0 2620mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1 06 44 AM

Mean Conc. 0.2496mg/L
CV Conc 7.04%



Sample

Sample Name: JC86461-9
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 2 465mg/L

1. Det

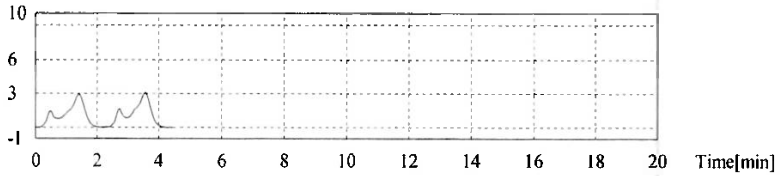
TOC-Control L Report

e90419w1 toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.11	2.473mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:13:57 AM
2	13.03	2.457mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:16:20 AM

Mean Conc. 2.465mg/L
CV Conc 0.45%



Sample

Sample Name: JC86461-10
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

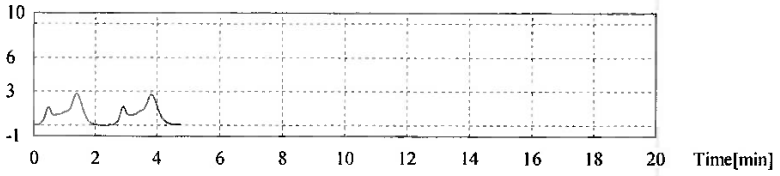
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 2.369mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.72	2.396mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:25:20 AM
2	12.45	2.343mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:27:55 AM

Mean Conc. 2.369mg/L
CV Conc 1.59%



Sample

Sample Name: JC86398-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 11.03mg/L

1. Det

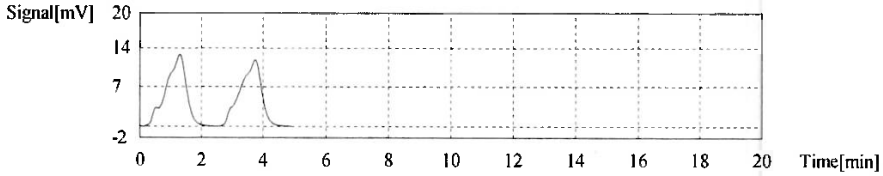
TOC-Control L Report

e90419w1.toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	57.46	11.21mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:36:31 AM
2	55.61	10.85mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:39:09 AM

Mean Conc. 11.03mg/L
CV Conc 2.34%



Sample

Sample Name: JC86398-2
Sample ID:
Origin: TOCAQ.met
Status: Completed
Chk. Result:

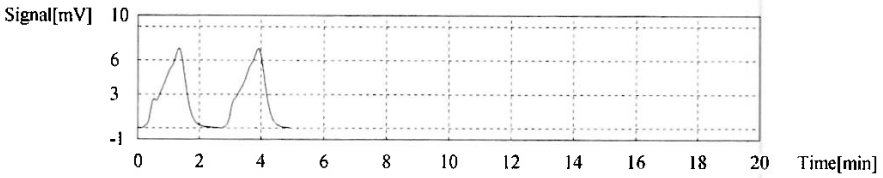
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 6.819mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	35.20	6.827mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:47:52 AM
2	35.12	6.811mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:50:21 AM

Mean Conc. 6.819mg/L
CV Conc 0.16%



Sample

Sample Name: CCV
Sample ID:
Origin: TOCAQ.met
Status: Completed
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 23.62mg/L

1. Det

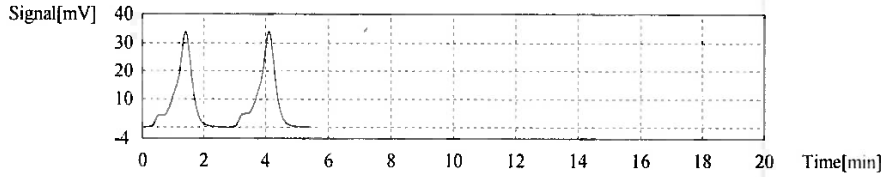
TOC-Control L Report

e90419wl toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	120.1	23.56mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 1:59:09 AM
2	120.7	23.68mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 2:02:09 AM

Mean Conc. 23.62mg/L
CV Conc 0.35%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

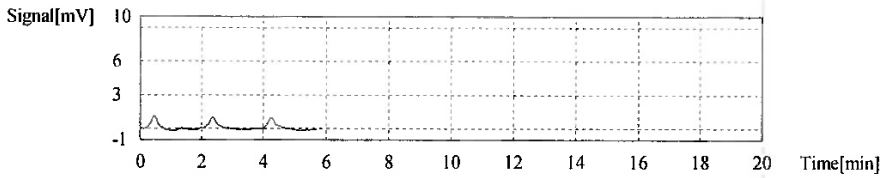
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.2544mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.366	0.1579mg/L	100uL	1.000	E	e90328wl 2019_03_28_12_56_48 cal	4/20/2019 2:18:04 AM
2	1.768	0.2371mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 2:20:13 AM
3	1.943	0.2716mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 2:22:18 AM

Mean Conc 0.2544mg/L
CV Conc 9.59%



Sample

Sample Name: SPARGERCHK
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.2567mg/L

1. Det

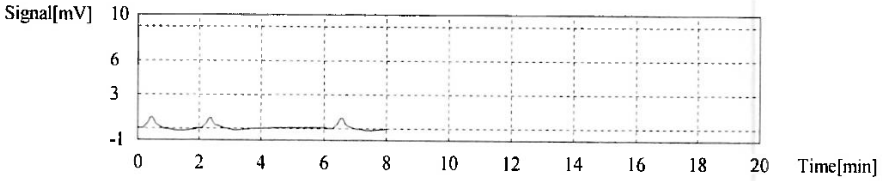
TOC-Control L Report

e90419w1.toc.tfx

Anal. NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.910	0.2651mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 2:29:14 AM
2	1.020	0.08969mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/20/2019 2:33:41 AM
3	1.825	0.2484mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 2:35:50 AM

Mean Conc. 0.2567mg/L
CV Conc 4.61%



LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: E041919W1.NO32 Date Analyzed: 04/19/19 Methods: EPA 353.2/LACHAT
Analyst: KI Run ID: GN94330

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: KI Date 4/19/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date _____

E041919w1 NO32

GN 94330

Author: Chemistry

Date : 4/19/2019

Original Run Filename: OM_4-19-2019_12-07-59PM.OMN Created: 4/19/2019 12:07:59 PM
Original Run Author's Signature: [Chemistry]
Current Run Filename: OM_4-19-2019_12-07-59PM.OMN Last Modified: 4/19/2019 1:33:11 PM
Current Run Author's Signature: [Chemistry]
Description: Default New Run

Sample	Rep.	Cup No.	Channel 1 NO32 (mg/L)	Detection Time	MDF	
STDA	1	S1	5.00	4/19/2019@12:08:55 PM		
STDB	1	S2	2.50	4/19/2019@12:10:03 PM		
STDC	1	S3	1.00	4/19/2019@12:11:10 PM		
STDD	1	S4	0.500	4/19/2019@12:12:18 PM		
STDE	1	S5	0.200	4/19/2019@12:13:25 PM		
STDF	1	S6	0.100	4/19/2019@12:14:32 PM		
STDG	1	S7	0.00	4/19/2019@12:15:39 PM		
EFFCHK	1	1	2.12	4/19/2019@12:16:47 PM		
	Known Conc:		2.00			W6
	Calibration:		Table/Fig. : 1			
ICV	1	2	2.08	4/19/2019@12:17:55 PM		
	Known Conc:		2.00			W4
ICB	1	3	-0.0218	4/19/2019@12:19:03 PM		
	Known Conc:		0.00			
CCV	1	S9	2.65	4/19/2019@12:20:10 PM		
	Known Conc:		2.50			W6
CCB	1	S10	-0.0664	4/19/2019@12:21:18 PM		
	Known Conc:		0.00			
GP20728-MB1	1	4	-0.0782	4/19/2019@12:22:26 PM		
JC85413-15A	1	5	0.0529	4/19/2019@12:23:33 PM		
GP20729-MB1	1	6	-0.0580	4/19/2019@12:24:41 PM		
GP20729-B1	1	7	2.02	4/19/2019@12:25:48 PM		I01
GP20729-S1 (2)	1	8	7.16	4/19/2019@12:26:56 PM		overrange, see rerun
GP20729-S2	1	9	1.75	4/19/2019@12:28:03 PM		
GP20729-D1 (2)	1	10	6.73	4/19/2019@12:29:10 PM		overrange, see rerun
JC86521-4	1	11	6.73	4/19/2019@12:30:17 PM		
JC86521-7	1	12	0.237	4/19/2019@12:31:24 PM		
JC86521-6A (2)	1	13	5.19	4/19/2019@12:32:31 PM		overrange see rerun
CCV	1	S9	2.66	4/19/2019@12:33:38 PM		
	Known Conc:		2.50			W6.4
CCB	1	S10	-0.0542	4/19/2019@12:34:46 PM		
	Known Conc:		0.00			
JC86426-1	1	14	0.491	4/19/2019@12:35:53 PM		
JC86461-2	1	15	0.124	4/19/2019@12:37:00 PM		
JC86461-7	1	16	2.23	4/19/2019@12:38:07 PM		
JC86461-8	1	17	0.599	4/19/2019@12:39:15 PM		
JC86397-7	1	18	0.894	4/19/2019@12:40:23 PM		
JC86397-8	1	19	-0.0171	4/19/2019@12:41:31 PM		
JC86397-9	1	20	-9.91e-3	4/19/2019@12:42:39 PM		
JC86449-1	1	21	1.73	4/19/2019@12:43:46 PM		
JC86512-8	1	22	2.57	4/19/2019@12:44:54 PM		
JC86512-10	1	23	1.69	4/19/2019@12:46:01 PM		
CCV	1	S9	2.67	4/19/2019@12:47:08 PM		
	Known Conc:		2.50			W6.8
CCB	1	S10	-0.0543	4/19/2019@12:48:16 PM		
	Known Conc:		0.00			
JC86616-1	1	24	0.0534	4/19/2019@12:49:23 PM		
JC86616-2	1	25	2.34	4/19/2019@12:50:30 PM		
JC86616-3	1	26	1.81	4/19/2019@12:51:37 PM		
JC86616-4	1	27	-0.0513	4/19/2019@12:52:44 PM		
JC86616-5	1	28	0.455	4/19/2019@12:53:51 PM		
JC86616-6	1	29	1.88	4/19/2019@12:54:58 PM		
JC86616-8	1	30	0.0783	4/19/2019@12:56:05 PM		
GP20731-MB1	1	31	-0.0643	4/19/2019@12:57:12 PM		
GP20731-B1	1	32	2.06	4/19/2019@12:58:20 PM		W3
GP20731-S1	1	33	1.71	4/19/2019@12:59:28 PM		
CCV	1	S9	2.67	4/19/2019@1:00:35 PM		
	Known Conc:		2.50			W6.8
CCB	1	S10	-0.0570	4/19/2019@1:01:43 PM		
	Known Conc:		0.00			

13.10 13

Author: Chemistry

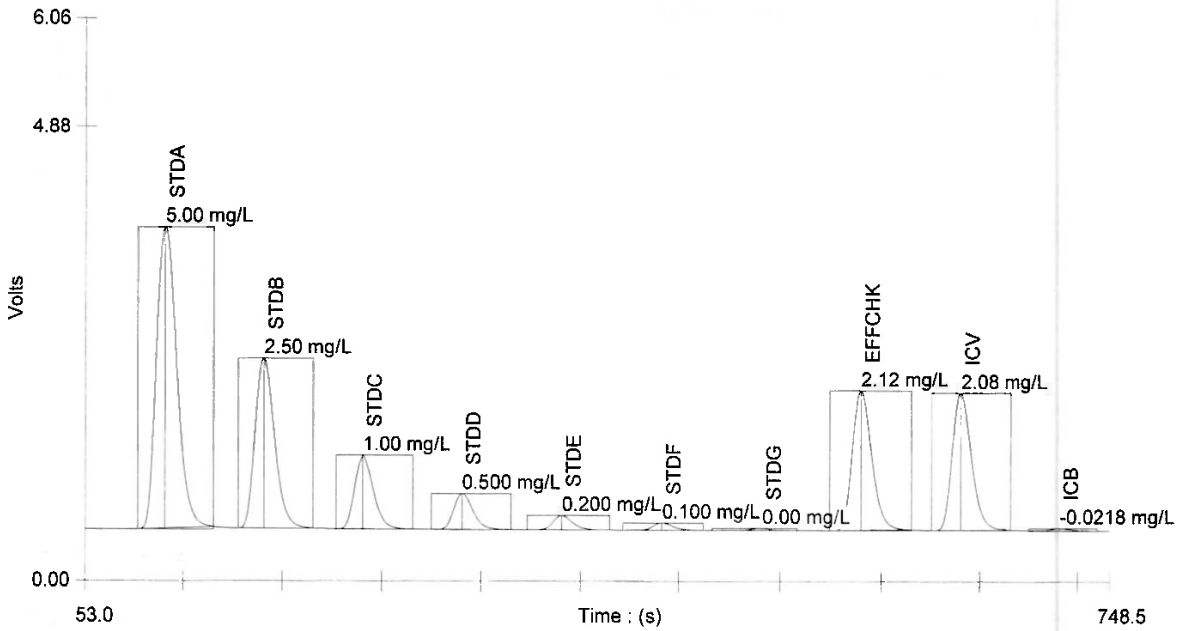
Date : 4/19/2019

GP20731-S2	1	34	3.12	4/19/2019@1:02:51 PM	
GP20731-D1	1	35	0.742	4/19/2019@1:03:58 PM	
JC86616-9	1	36	0.777	4/19/2019@1:05:06 PM	
JC86616-10	1	37	2.16	4/19/2019@1:06:14 PM	
JC86616-11	1	38	1.60	4/19/2019@1:07:21 PM	
JC86616-16	1	39	-0.0121	4/19/2019@1:08:28 PM	
JC86461-3	1	40	0.732	4/19/2019@1:09:35 PM	
JC86461-4	1	41	1.70	4/19/2019@1:10:42 PM	
JC86461-5	1	42	2.35	4/19/2019@1:11:49 PM	
JC86461-6	1	43	1.32	4/19/2019@1:12:56 PM	
CCV	1	S9	2.65	4/19/2019@1:14:03 PM	
	Known Conc:		2.50		
CCB	1	S10	-0.0556	4/19/2019@1:15:11 PM	
	Known Conc:		0.00		
JC86461-9	1	44	1.58	4/19/2019@1:16:18 PM	
JC86461-10	1	45	0.169	4/19/2019@1:17:25 PM	
JC86492-2	1	46	4.16	4/19/2019@1:18:32 PM	
GP20729-S1	1	47	4.07	4/19/2019@1:19:40 PM	2.00
GP20729-S1	1	48	2.19	4/19/2019@1:20:48 PM	4.00
GP20729-D1	1	49	3.78	4/19/2019@1:21:56 PM	2.00
GP20729-D1	1	50	1.94	4/19/2019@1:23:04 PM	4.00
JC86521-4	1	51	3.84	4/19/2019@1:24:11 PM	2.00
JC86521-4	1	52	1.98	4/19/2019@1:25:19 PM	4.00
JC86521-6A	1	53	1.69	4/19/2019@1:26:26 PM	3.00
CCV	1	S9	2.66	4/19/2019@1:29:37 PM	
	Known Conc:		2.50		
CCB	1	S10	-0.0610	4/19/2019@1:30:45 PM	
	Known Conc:		0.00		

106

106.4

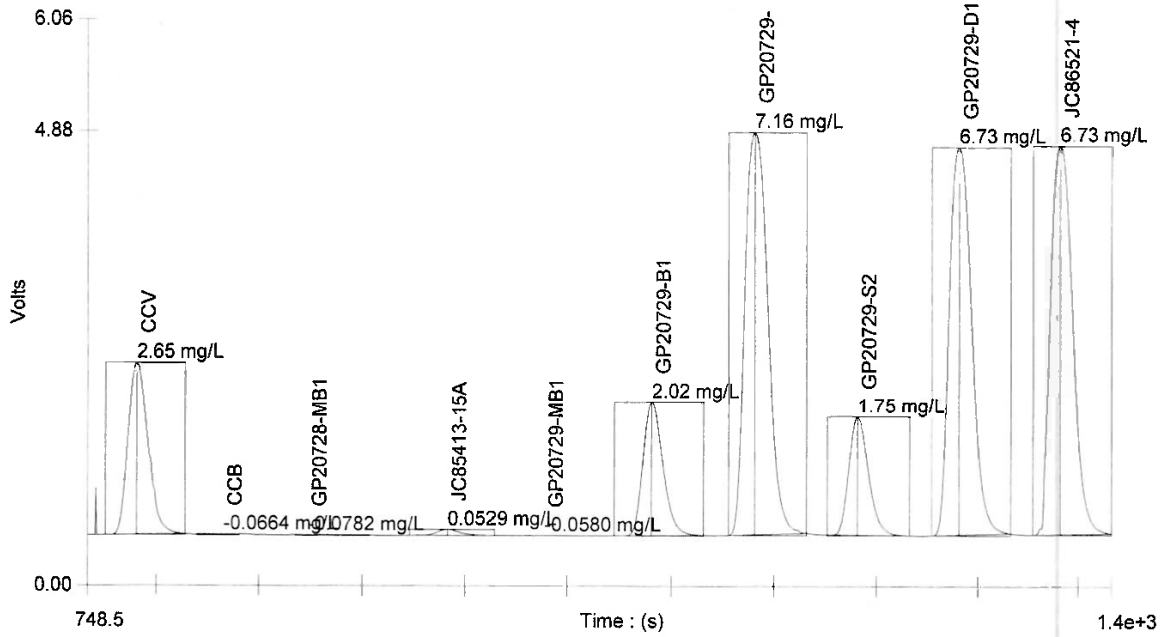
Channel 1 - Set: 1 / 8



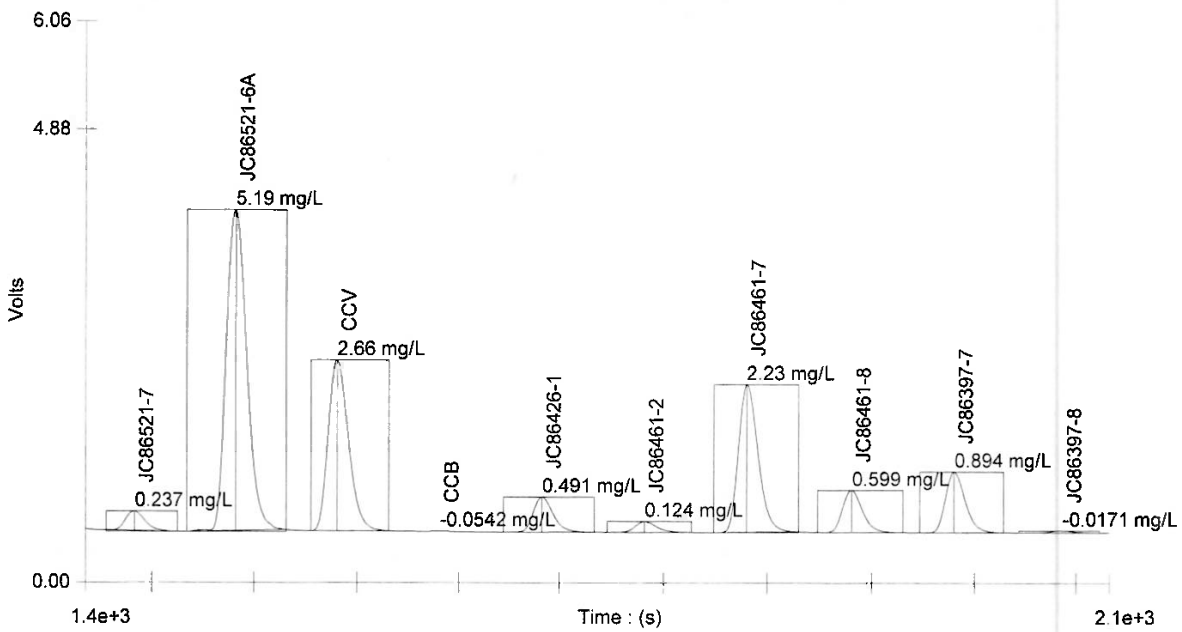
Author: Chemistry

Date : 4/19/2019

Channel 1 - Set: 2 / 8



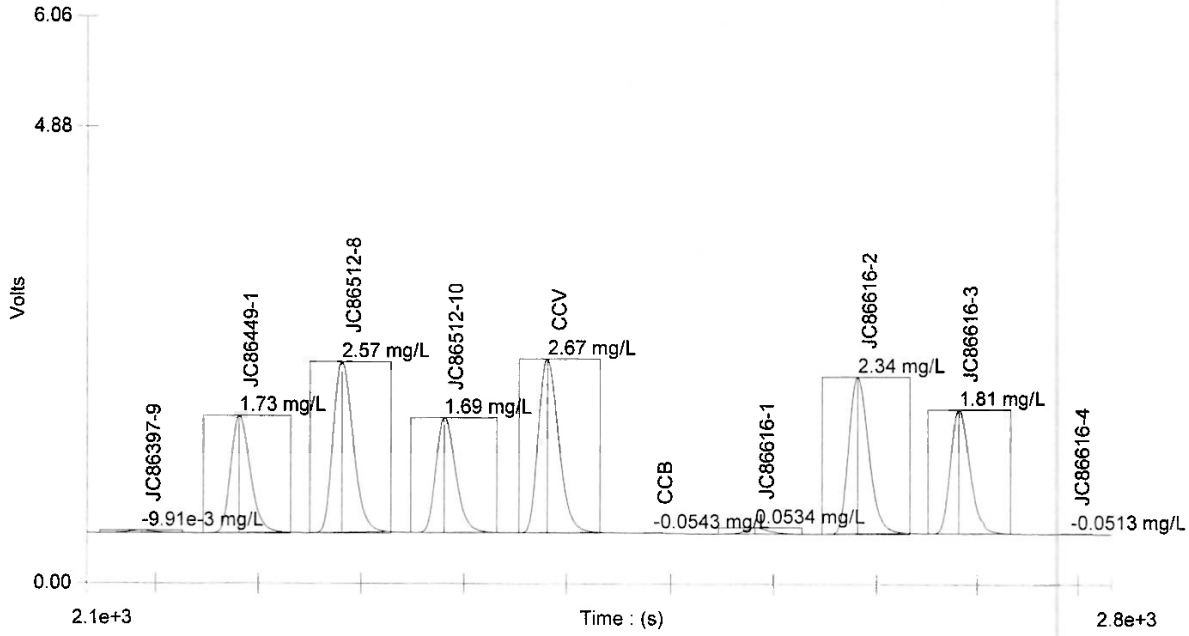
Channel 1 - Set: 3 / 8



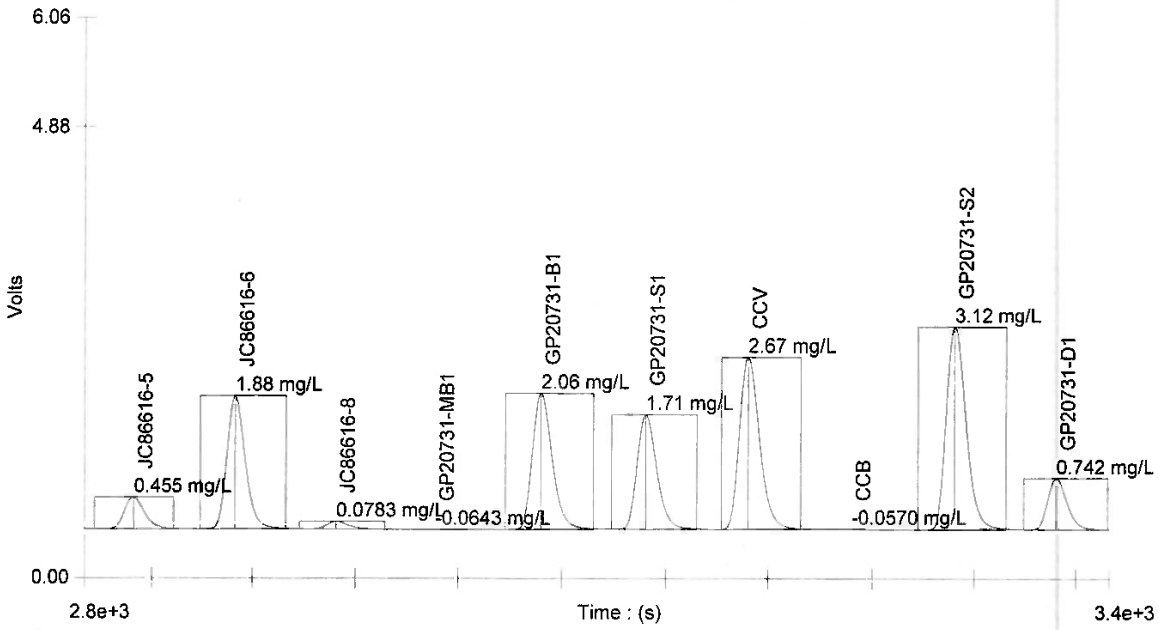
Author: Chemistry

Date : 4/19/2019

Channel 1 - Set: 4 / 8

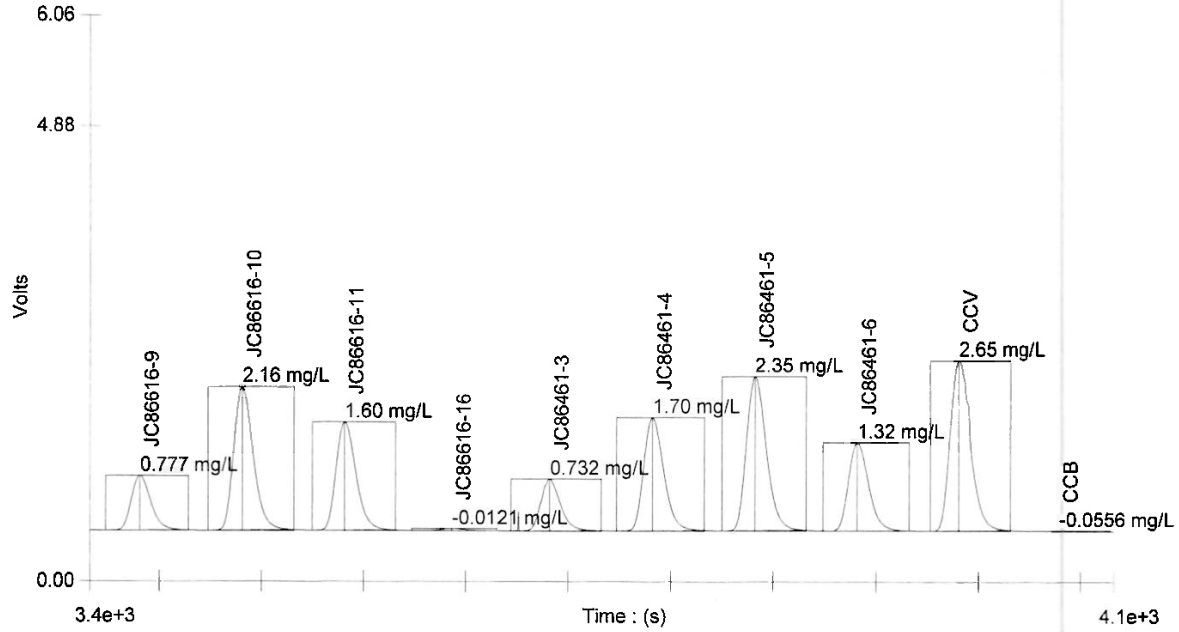


Channel 1 - Set: 5 / 8

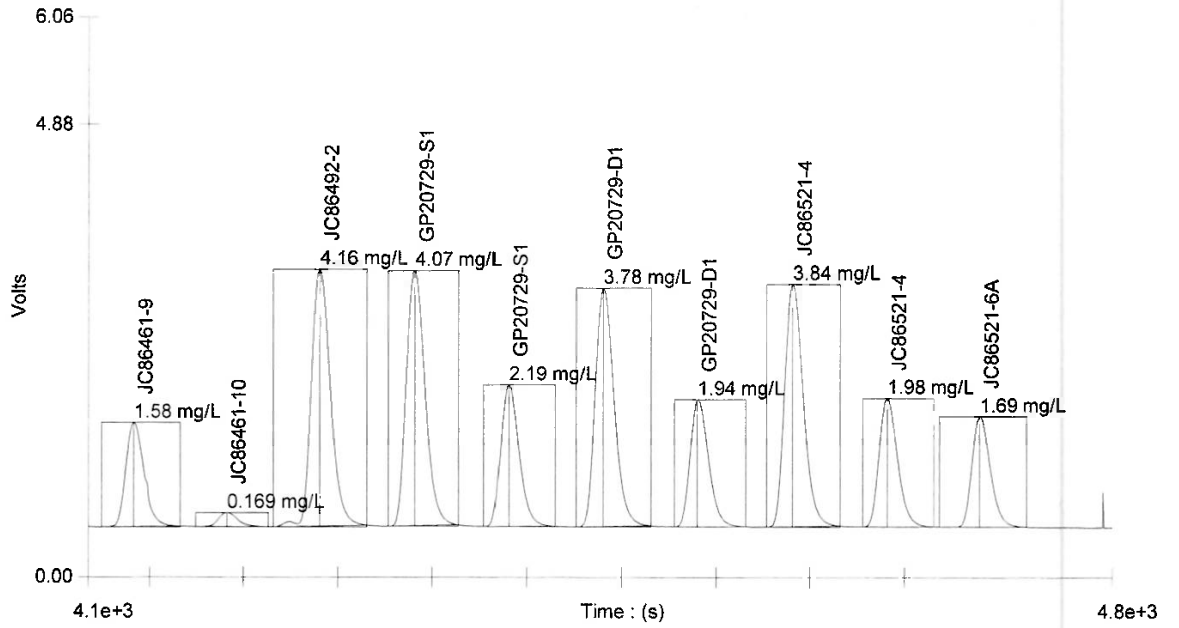


Author: Chemistry Date : 4/19/2019

Channel 1 - Set: 6 / 8



Channel 1 - Set: 7 / 8



Author: Chemistry

Date : 4/19/2019

Channel 1 - Set: 8 / 8

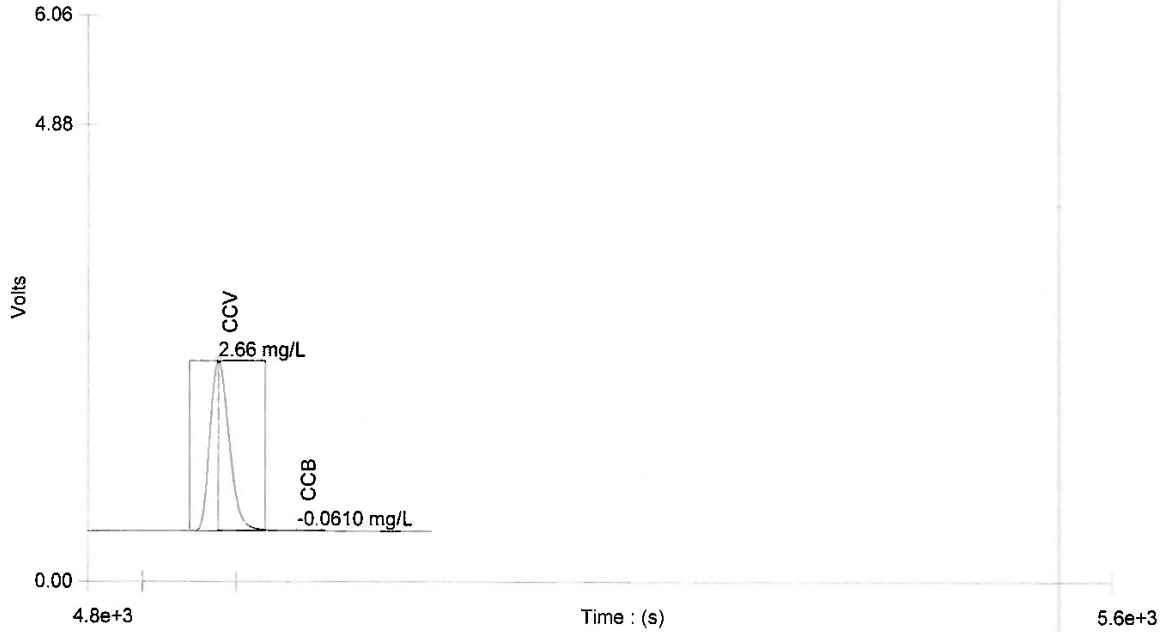
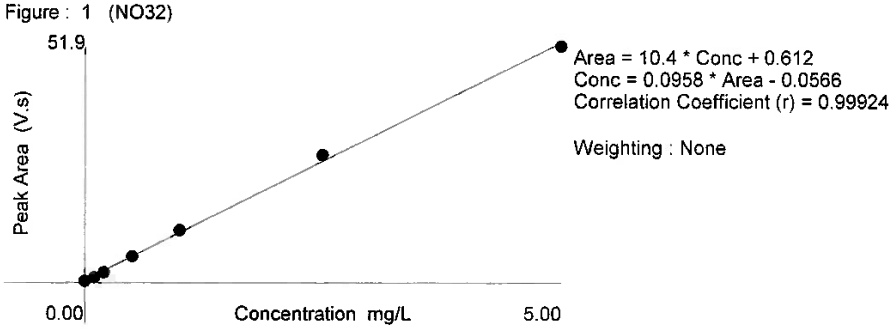


Table : 1 (NO32)

	Known Conc. (mg/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg/L)	Detection Date	Detection Time
1	5.00	1	51.9	3.24	0.0	1.5	4.92	4/19/2019	12:08:55 PM
2	2.50	1	28.1	1.84	0.0	-5.3	2.63	4/19/2019	12:10:03 PM
3	1.00	1	11.5	0.794	0.0	-4.7	1.05	4/19/2019	12:11:10 PM
4	0.500	1	5.80	0.386	0.0	0.4	0.499	4/19/2019	12:12:18 PM
5	0.200	1	2.30	0.153	0.0	14.8	0.163	4/19/2019	12:13:25 PM
6	0.100	1	1.18	0.0775	0.0	28.4	0.0569	4/19/2019	12:14:32 PM
7	0.00	1	0.354	0.0211			-0.0227	4/19/2019	12:15:39 PM

Figure : 1 (NO32)



SGS

Analyst KI Product NO32 Autopipette # 43

Date 4/19/19 Batch ID Class A Vol. Flask

Sample Dilution Prep Log

Sample ID	Dilution	Initial Volume	Final Volume	Comments
GP20729-S1	1:2	2	4	
↓ S1 ~~D1~~	1:4	1	4	
JC86521-4	1:2	2	4	
↓	1:4	1	4	
GP20729-D1	1:2	2	4	
↓	1:4	1	4	
JC86521-6A	1:3	1	3	

QC Reviewer: Date:

Form: GN165-01
Rev. Date: 2/25/03

SGS

MDL Schedule Log

Day 1

Product: NO32

Matrix: AQ

Instrument: Lachat E + MB

Sample #: JC85413-15A MDL or MDLVER x 1

Concentration: 0.1 mg/L or mg/kg or _____

Prep: 0.1mL 100ppm NO32 std diluted to 100mL DI

Sample #: _____ MDL or MDLVER x _____

Concentration: _____ mg/L or mg/kg or _____

Prep: _____

Date: 4/19/19

Analyst: KJ

Batch #: GP20728

Form: GN278-04
Revised: 3/2/18

SGS

Analyst: KI

Product: NO32

Pipette ID: 43

Prep Date: 4/19/19

Balance ID: _____

Batch ID: _____

Sample Prep Log

Sample ID	Initial Sample Amount	Final Volume
GP20729-B1	2mL 100ppm NO32 std	100mL carrier
-S1	.5mL 100ppm	50mL JC86521-4 (clear)
↓ -S2	↓	50mL JC86397-7 (clear)
GP20731-B1	2mL 100ppm NO32 std	100mL carrier
-S1	.5mL 100ppm	50mL JC86616-9 (clear)
↓ -S2	↓	50mL JC86461-5 (clear)

Reviewer: _____

Date: _____

Form: GN166-04
Revised: 10/27/16

13.10 13

SGS

Reagent Information Log - Nitrate Lachat Autoanalyzer

GN94330

Reagent	Reagent # or Manufacturer/Lot	Expiration Date
Nitrate Stock Solution	GNE2-57126-NO32	8/4/2019
Ammonium Chloride Buffer Solution	GNE3-57481-NO3	9/12/2019
Sulfanilamide Color Reagent	GNE3-57634-NO32	4/26/2019
1:1 NH4OH	GNE1-57007-NO32	7/21/2019
Carrier Solution	GNE11-56545-NO3	5/28/2019
1000 ppm Nitrite Solution	GNE2-57128-NO32	8/4/2019
Nitrate External Stock Solution	GNE2-57127-NO32	8/4/2019

Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error

Form: GN087A-43
Rev. Date: 7/19/06

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG FOR NITRATE

GN or GP Number: GN94330

Intermediate Standard Description	Stock used to prepare standard	Stock concentration in mg/l	Stock volume used in ml	Diluent (a)	Final Volume	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
100 ppm NO3 intermediate	GNE2-57126-NO32	1000	10	Carrier	100 ml	100	8/4/2019	BM	2/4/2019
100 ppm NO2 Intermediate	GNE2-57128-NO32	1000	10	Carrier	100 ml	100	8/4/2019	BM	2/4/2019
100 ppm NO3 External	GNE2-57127-NO32	1000	10	Carrier	100 ml	100	8/4/2019	BM	2/4/2019

Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration	Intermediate or Stock volume used in ml	Diluent	Final Volume	Final Conc. of Standard (mg/l)	Expiration Date	Analyst	Date
5.0 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	5.0	Carrier	100 ml	5.0	4/24/2019	KI	4/17/2019
2.5 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	2.5	Carrier	100 ml	2.5	4/24/2019	KI	4/17/2019
1.0 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	1.0	Carrier	100 ml	1.0	4/24/2019	KI	4/17/2019
0.5 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	5.0	Carrier	100 ml	0.5	4/24/2019	KI	4/17/2019
0.2 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	2.0	Carrier	100 ml	0.2	4/24/2019	KI	4/17/2019
0.1 mg/l NO3	100 ppm NO3 intermediate		1.0	Carrier	100 ml	0.1	4/24/2019	KI	4/17/2019
Effcheck 2.0	100 ppm NO2 Intermediate	100 mg/l	2.0	Carrier	100 ml	2.0	4/24/2019	KI	4/17/2019
ICV	100 ppm NO3 External	100 mg/l	2.0	Carrier	100 ml	2.0	4/24/2019	KI	4/17/2019

(a) Diluent reagent reference number_____Expiration Date_____

**Volume will change with standardization concentration.

Form: GN199-02
Rev. Date: 3/2/18

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

GEI Consultants, Inc.

Tufts Street, Somerville, MA

045163

SGS Job Number: JC86494

Sampling Date: 04/15/19

Report to:

GEI Consultants, Inc.

mgreer@geiconsultants.com

ATTN: Molly Greer

Total number of pages in report: 21

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Brian McGuire
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

SGS is the sole authority for authorizing edits or modifications to this document.
Unauthorized modification of this report is strictly prohibited.
Review standard terms at: http://www.sgs.com/en/terms-and-conditions

Please share your ideas about how we can serve you better at:
EHS.US.CustomerCare@sgs.com

Sections: 1 2 3 4 5

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **5**
Section 4: Sample Results **6**
4.1: JC86494-1: 045163-MW117T 7
4.2: JC86494-2: 045163-MW118S 10
4.3: JC86494-3: 045163-MW118D 13
4.4: JC86494-4: 045163-MW122 16
Section 5: Misc. Forms **19**
5.1: Chain of Custody 20

Sample Summary

GEI Consultants, Inc.

Job No: JC86494

Tufts Street, Somerville, MA
Project No: 045163

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC86494-1	04/15/19	15:20	MG	04/16/19	AQ	Ground Water	045163-MW117T
JC86494-2	04/15/19	16:15	MG	04/16/19	AQ	Ground Water	045163-MW118S
JC86494-3	04/15/19	16:25	MG	04/16/19	AQ	Ground Water	045163-MW118D
JC86494-4	04/15/19	16:00	MG	04/16/19	AQ	Ground Water	045163-MW122

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	GEI Consultants, Inc.	**Job No**	JC86494
Site:	Tufts Street, Somerville, MA	**Report Date**	4/22/2019 4:25:24 PM

On 04/16/2019, 4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 1.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC86494 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** V3D6274

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC86494-4MS, JC86494-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for 1,2-Dibromoethane are outside control limits. Outside control limits due to matrix interference.
- RPD(s) for MSD for 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethene, 1,1-Dichloropropene, 1,2,4-Trimethylbenzene, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3,5-Trimethylbenzene, 1,3-Dichlorobenzene, 1,3-Dichloropropane, 1,4-Dichlorobenzene, 2,2-Dichloropropane, 2-Hexanone, 4-Methyl-2-pentanone(MIBK), Benzene, Bromochloromethane, Bromodichloromethane, Bromoform, Carbon tetrachloride, Chlorobenzene, Chloroform, cis-1,2-Dichloroethene, cis-1,3-Dichloropropene, Di-Isopropyl ether, Dibromochloromethane, Ethyl Ether, Isopropylbenzene, Methyl Tert Butyl Ether, Methylene bromide, n-Butylbenzene, n-Propylbenzene, Naphthalene, o-Chlorotoluene, o-Xylene, p-Chlorotoluene, sec-Butylbenzene, Styrene, tert-Amyl Methyl Ether, tert-Butyl Ethyl Ether, tert-Butylbenzene, Tetrahydrofuran, Toluene, trans-1,2-Dichloroethene, trans-1,3-Dichloropropene, Trichloroethene are outside control limits for sample JC86494-4MSD. Analytical precision exceeds in-house control limits.
- JC86494-1 for Bromomethane: Associated CCV outside of control limits low.
- JC86494-2 for Bromomethane: Associated CCV outside of control limits low.
- JC86494-3 for Bromomethane: Associated CCV outside of control limits low.

Matrix: AQ **Batch ID:** V3D6276

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC86554-1DUP, JC86554-3MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC86494-4: Diluted due to high concentration of target compound.
- JC86494-4 for Bromomethane: Associated CCV outside of control limits low. This compound is outside the 20% RPD criteria between associated BS and BSD.
- V3D6276-BSD for Bromomethane: Outside in house control limits.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JC86494
Account: GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Collected: 04/15/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC86494-1	**045163-MW117T**					
Tetrachloroethene		1.3	1.0		ug/l	SW846 8260C
JC86494-2	**045163-MW118S**					
No hits reported in this sample.						
JC86494-3	**045163-MW118D**					
1,1-Dichloroethane		18.6	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethene		3.2	1.0		ug/l	SW846 8260C
Methyl Tert Butyl Ether		1.3	1.0		ug/l	SW846 8260C
Tetrachloroethene		1.6	1.0		ug/l	SW846 8260C
Trichloroethene		1.1	1.0		ug/l	SW846 8260C
Vinyl chloride		1.1	1.0		ug/l	SW846 8260C
JC86494-4	**045163-MW122**					
1,1-Dichloroethane [a]		18.8	2.0		ug/l	SW846 8260C
1,1-Dichloroethene [a]		6.1	2.0		ug/l	SW846 8260C
cis-1,2-Dichloroethene [a]		69.1	2.0		ug/l	SW846 8260C
Methyl Tert Butyl Ether [a]		2.1	2.0		ug/l	SW846 8260C
Tetrachloroethene		1060	10		ug/l	SW846 8260C
Trichloroethene [a]		121	2.0		ug/l	SW846 8260C

(a) Diluted due to high concentration of target compound.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	045163-MW117T		
Lab Sample ID:	JC86494-1	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146754.D	1	04/18/19 15:54	JP	n/a	n/a	V3D6274
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW117T		
Lab Sample ID:	JC86494-1	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	1.3	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW117T		
Lab Sample ID:	JC86494-1	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		80-120%
17060-07-0	1,2-Dichloroethane-D4	96%		81-124%
2037-26-5	Toluene-D8	103%		80-120%
460-00-4	4-Bromofluorobenzene	97%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW118S		
Lab Sample ID:	JC86494-2	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146755.D	1	04/18/19 16:19	JP	n/a	n/a	V3D6274
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 045163-MW118S
Lab Sample ID: JC86494-2
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Tufts Street, Somerville, MA

Date Sampled: 04/15/19
Date Received: 04/16/19
Percent Solids: n/a

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW118S		
Lab Sample ID:	JC86494-2	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		80-120%
17060-07-0	1,2-Dichloroethane-D4	101%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW118D		
Lab Sample ID:	JC86494-3	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146756.D	1	04/18/19 16:44	JP	n/a	n/a	V3D6274
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	18.6	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.2	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 045163-MW118D
Lab Sample ID: JC86494-3
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Tufts Street, Somerville, MA

Date Sampled: 04/15/19
Date Received: 04/16/19
Percent Solids: n/a

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.3	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	1.6	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	1.1	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	1.1	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW118D		
Lab Sample ID:	JC86494-3	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		80-120%
17060-07-0	1,2-Dichloroethane-D4	102%		81-124%
2037-26-5	Toluene-D8	103%		80-120%
460-00-4	4-Bromofluorobenzene	100%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW122		
Lab Sample ID:	JC86494-4	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3D146799.D	2	04/19/19 14:13	DG	n/a	n/a	V3D6276
Run #2	3D146742.D	10	04/18/19 10:52	JP	n/a	n/a	V3D6274

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	20	ug/l	
71-43-2	Benzene	ND	1.0	ug/l	
108-86-1	Bromobenzene	ND	2.0	ug/l	
74-97-5	Bromochloromethane	ND	2.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
74-83-9	Bromomethane [b]	ND	4.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	20	ug/l	
104-51-8	n-Butylbenzene	ND	4.0	ug/l	
135-98-8	sec-Butylbenzene	ND	4.0	ug/l	
98-06-6	tert-Butylbenzene	ND	4.0	ug/l	
75-15-0	Carbon disulfide	ND	4.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	4.0	ug/l	
106-43-4	p-Chlorotoluene	ND	4.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	4.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	4.0	ug/l	
75-34-3	1,1-Dichloroethane	18.8	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethene	6.1	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	69.1	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 045163-MW122
Lab Sample ID: JC86494-4
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Tufts Street, Somerville, MA

Date Sampled: 04/15/19
Date Received: 04/16/19
Percent Solids: n/a

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	2.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	2.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
123-91-1	1,4-Dioxane	ND	250	ug/l	
60-29-7	Ethyl Ether	ND	4.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
98-82-8	Isopropylbenzene	ND	2.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	4.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.1	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	10	ug/l	
74-95-3	Methylene bromide	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	ug/l	
91-20-3	Naphthalene	ND	10	ug/l	
103-65-1	n-Propylbenzene	ND	4.0	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	4.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	4.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethene	1060 [c]	10	ug/l	
109-99-9	Tetrahydrofuran	ND	20	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
79-01-6	Trichloroethene	121	2.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	4.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	4.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	
95-47-6	o-Xylene	ND	2.0	ug/l	
1330-20-7	Xylene (total)	ND	2.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW122		
Lab Sample ID:	JC86494-4	**Date Sampled:**	04/15/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	99%	80-120%
17060-07-0	1,2-Dichloroethane-D4	101%	100%	81-124%
2037-26-5	Toluene-D8	103%	104%	80-120%
460-00-4	4-Bromofluorobenzene	98%	99%	80-120%

(a) Diluted due to high concentration of target compound.
(b) Associated CCV outside of control limits low. This compound is outside the 20% RPD criteria between associated BS and BSD.
(c) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

GW

Chain-of-Custody Record

Laboratory: ACCUTEST

Laboratory Job # (Lab use only) JC86494

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tufts St.
Project Location: Somerville, MA
Project Number: 045163
Project Manager: Joe Roman
Send Report to: Molly Greer
Send EDD to: labdata@geiconsultants.com

Page 1 of 1

MCP PRESUMPTIVE CERTAINTY REQUIRED – (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA
If Yes, Are Drinking Water Samples Submitted? YES (NO) NA
If Yes, Have You Met Minimum Field QC Requirements? (YES) NO NA

Preservative

HCl	HCl	None	NaOH + Zn Acetate	H_3PO_4	HNO_3	H_2SO_4	

Analysis

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOCs 8260	Methane, Ethane, Ethene	Alkalinity, Cl, TRCr, Fe II, N, NO_3, SO_4, Surfactants	Sulfide	TOC	Manganese	NO_2 & NO_3 as Nitrogen		Sample Specific Remarks
1	045163-MW117T	4/15/19	1520	GW	3	BRL	x								
2	045163-MW118S	4/15/19	1615	GW	3	EJF	x								
3	045163-MW118D	4/15/19	1625	GW	3	BRL	x								V907
4	045163-MW122	4/15/19	1600	GW	3	MEG	x								

INITIAL ASESSMENT BDK
LABEL VERIFICATION

Sample Handling

Samples Field Filtered: YES (NO) NA
Sampled Shipped With Ice: (YES) NO

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1. Molly Greer	4/15/19	1705	1. GEI Sample Fridge
2. GEI Sample Fridge	4/16/19	0620	2. Molly Greer
3. Molly Greer	4/16/19	1520	3.
4.	4/16/19	1655	4. Scott Rau
Scott Rau FedEx	4/16/19	18:30	FedEx
	4/17/19	09:30	

Turnaround Time (Business days):

Normal X Other
10-Day 7-Day
5-Day 3-Day

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

Additional Requirements/Comments/Remarks:

SGS ACCUTEST MARLBOR 4/16
SUB # 070863
on ice 2.4°C IC

4/9/2019

N:\045161\14.0 Field Program\14.4 Sampling Sheets and Surveys\14.4.1 Groundwater Sampling\COC full round April 2019.xls

5.1.5

JC86494: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC86494 **Client:** _____ **Project:** _____

Date / Time Received: 4/16/2019 6:30:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (2.4);

Cooler Temps (Corrected) °C: Cooler 1: (1.4);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 206717 pH 12+: 208717 Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

5.1
5

JC86494: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

GEI Consultants, Inc.

Tufts Street, Somerville, MA

045163

SGS Job Number: JC86512

Sampling Date: 04/16/19

Report to:

GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801
JRoman@GEIConsultants.com; mgreer@geiconsultants.com

ATTN: Joe Roman

Total number of pages in report: 592

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Brian McGuire
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

SGS is the sole authority for authorizing edits or modifications to this document.
Unauthorized modification of this report is strictly prohibited.
Review standard terms at: http://www.sgs.com/en/terms-and-conditions

Please share your ideas about
how we can serve you better at:
EHS.US.CustomerCare@sgs.com

Table of Contents

Section 1: Sample Summary 4
Section 2: Case Narrative/Conformance Summary 6
Section 3: Summary of Hits 9
Section 4: Sample Results 12
4.1: JC86512-1: 045163-MW116 13
4.2: JC86512-2: 045163-MW118T 16
4.3: JC86512-3: 045163-MW119S 19
4.4: JC86512-4: 045163-MW119T 22
4.5: JC86512-5: 045163-MW120S 25
4.6: JC86512-6: 045163-MW120D 28
4.7: JC86512-7: 045163-MW202 31
4.8: JC86512-8: 045163-SHMW2 34
4.9: JC86512-9: 045163-GEO-1 40
4.10: JC86512-10: 045163-GEO-2 43
4.11: JC86512-11: 045163-MW900 49
4.12: JC86512-12: 045163-MW901 52
Section 5: Misc. Forms 55
5.1: Chain of Custody 56
5.2: Sample Tracking Chronicle 58
5.3: Internal Chain of Custody 61
Section 6: MS Volatiles - QC Data Summaries 68
6.1: Method Blank Summary 69
6.2: Blank Spike/Blank Spike Duplicate Summary 72
6.3: Matrix Spike/Matrix Spike Duplicate Summary 75
6.4: Instrument Performance Checks (BFB) 78
6.5: Internal Standard Area Summaries 81
6.6: Surrogate Recovery Summaries 82
6.7: Initial and Continuing Calibration Summaries 83
Section 7: MS Volatiles - Raw Data 94
7.1: Samples 95
7.2: Method Blanks 174
7.3: Blank Spike/Blank Spike Duplicates 178
7.4: Matrix Spike/Matrix Spike Duplicates 186
7.5: Instrument Performance Checks (BFB) 194
7.6: Initial and Continuing Calibrations 198
7.7: Instrument Run Logs 245
Section 8: GC Volatiles - QC Data Summaries 249
8.1: Method Blank Summary 250
8.2: Laboratory Control Sample Summary 251
8.3: Duplicate Summary 252
8.4: Initial and Continuing Calibration Summaries 253
Section 9: GC Volatiles - Raw Data 257

Table of Contents

9.1: Samples 258
9.2: Method Blanks 270
9.3: Laboratory Control Samples 276
9.4: Duplicates 282
9.5: Initial and Continuing Calibrations 288
9.6: Instrument Run Logs 321
Section 10: Metals Analysis - QC Data Summaries 325
10.1: Inst QC MA46555: Mn 326
10.2: Prep QC MP14334: Mn 366
10.3: IDL and Linear Range Summaries 376
Section 11: Metals Analysis - Raw Data 378
11.1: Raw Data MA46555 379
11.2: Prep Logs 426
Section 12: General Chemistry - QC Data Summaries 429
12.1: Method Blank and Spike Results Summary 430
12.2: Duplicate Results Summary 431
12.3: Matrix Spike Results Summary 432
12.4: Matrix Spike Duplicate Results Summary 433
12.5: Inst QC GN94318: Chloride,Sulfate 434
12.6: Inst QC GN94326: Total Organic Carbon 437
12.7: Inst QC GN94330: Nitrogen, Nitrate + Nitrite 441
Section 13: General Chemistry - Raw Data 445
13.1: Raw Data GN94223: Surfactants, MBAS as LAS 446
13.2: Raw Data GN94249: Nitrogen, Nitrite 451
13.3: Raw Data GN94251: Total Residual Chlorine 455
13.4: Raw Data GN94257: Iron, Ferrous 457
13.5: Raw Data GN94263: Sulfide 461
13.6: Raw Data GN94318: Chloride, Sulfate 466
13.7: Raw Data GN94326: Total Organic Carbon 529
13.8: Raw Data GN94330: Nitrogen, Nitrate + Nitrite 578
13.9: Raw Data GN94404: Alkalinity, Total as CaCO3 590

SGS North America Inc.

Sample Summary

GEI Consultants, Inc.

Job No: JC86512

Tufts Street, Somerville, MA
Project No: 045163

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC86512-1	04/16/19	14:00		04/16/19	AQ	Ground Water	045163-MW116
JC86512-2	04/16/19	10:40		04/16/19	AQ	Ground Water	045163-MW118T
JC86512-3	04/16/19	09:40		04/16/19	AQ	Ground Water	045163-MW119S
JC86512-4	04/16/19	09:55		04/16/19	AQ	Ground Water	045163-MW119T
JC86512-5	04/16/19	12:15		04/16/19	AQ	Ground Water	045163-MW120S
JC86512-6	04/16/19	11:25		04/16/19	AQ	Ground Water	045163-MW120D
JC86512-7	04/16/19	09:50		04/16/19	AQ	Ground Water	045163-MW202
JC86512-8	04/16/19	14:00		04/16/19	AQ	Ground Water	045163-SHMW2
JC86512-8D	04/16/19	14:00		04/16/19	AQ	Water Dup/MSD	045163-SHMW2
JC86512-8S	04/16/19	14:00		04/16/19	AQ	Water Matrix Spike	045163-SHMW2
JC86512-9	04/16/19	12:15		04/16/19	AQ	Ground Water	045163-GEO-1
JC86512-10	04/16/19	11:30		04/16/19	AQ	Ground Water	045163-GEO-2
JC86512-11	04/16/19	12:00		04/16/19	AQ	Ground Water	045163-MW900

SGS North America Inc.

Sample Summary
(continued)

GEI Consultants, Inc.

Job No: JC86512

Tufts Street, Somerville, MA
Project No: 045163

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC86512-12	04/16/19	12:00		04/16/19	AQ	Ground Water	045163-MW901

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	GEI Consultants, Inc.	**Job No**	JC86512
Site:	Tufts Street, Somerville, MA	**Report Date**	4/23/2019 5:59:32 PM

On 04/16/2019, 12 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 1.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC86512 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** V3D6281

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86512-8MS, JC86512-8MSD were used as the QC samples indicated.
- Matrix Spike / Matrix Spike Duplicate Recovery(s) for Tetrachloroethene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for MSD for Bromomethane are outside control limits for sample JC86512-8MSD. Outside control limits due to matrix interference.
- JC86512-3 for Bromomethane: Associated CCV outside of control limits low.
- JC86512-11 for Bromomethane: Associated CCV outside of control limits low.
- JC86512-8 for Bromomethane: Associated CCV outside of control limits low.
- JC86512-4 for Bromomethane: Associated CCV outside of control limits low.
- JC86512-5 for Bromomethane: Associated CCV outside of control limits low.
- JC86512-6 for Bromomethane: Associated CCV outside of control limits low.
- JC86512-1 for Bromomethane: Associated CCV outside of control limits low.
- JC86512-10 for Bromomethane: Associated CCV outside of control limits low.
- JC86512-9 for Bromomethane: Associated CCV outside of control limits low.
- JC86512-2 for Bromomethane: Associated CCV outside of control limits low.
- JC86512-12 for Bromomethane: Associated CCV outside of control limits low.
- JC86512-7 for Bromomethane: Associated CCV outside of control limits low.

GC Volatiles By Method RSK-175

Matrix: AQ **Batch ID:** GAA1691

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC86512-8DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals Analysis By Method SW846 6010D

Matrix: AQ **Batch ID:** MP14334

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86402-9AMS, JC86402-9AMSD, JC86402-9ASDL were used as the QC samples for metals.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP20737

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86512-10MS, JC86512-8DUP, JC86512-8MS were used as the QC samples for Chloride, Sulfate, Chloride.

General Chemistry By Method EPA 353.2/LACHAT

Matrix: AQ **Batch ID:** GP20729

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86521-4DUP, JC86521-4MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

General Chemistry By Method EPA353.2/SM4500NO2B

Matrix: AQ **Batch ID:** R177604

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC86512-10 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R177606

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC86512-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

General Chemistry By Method SM2320 B-11

Matrix: AQ **Batch ID:** GN94404

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86325-1DUP were used as the QC samples for Alkalinity, Total as CaCO3.
- JC86512-8 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.
- JC86512-10 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.

General Chemistry By Method SM3500FE B-11

Matrix: AQ **Batch ID:** GN94257

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86512-8DUP, JC86512-8MS, JC86512-8MSD were used as the QC samples for Iron, Ferrous.
- JC86512-8 for Iron, Ferrous: Field analysis required. Received out of hold time and analyzed by request.
- JC86512-10 for Iron, Ferrous: Field analysis required. Received out of hold time and analyzed by request.

General Chemistry By Method SM4500CL F-11

Matrix: AQ **Batch ID:** GN94251

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86426-1DUP were used as the QC samples for Total Residual Chlorine.
- JC86512-8 for Total Residual Chlorine: Field analysis required. Received out of hold time and analyzed by request.
- JC86512-10 for Total Residual Chlorine: Field analysis required. Received out of hold time and analyzed by request.

General Chemistry By Method SM4500NO2 B-11

Matrix: AQ	Batch ID: GN94249

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86511-2DUP, JC86511-2MS were used as the QC samples for Nitrogen, Nitrite.

General Chemistry By Method SM4500S2- F-11

Matrix: AQ	Batch ID: GN94263

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86426-1MS, JC86512-8DUP were used as the QC samples for Sulfide.

General Chemistry By Method SM5310 B-11

Matrix: AQ	Batch ID: GP20738

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86461-2MS, JC86461-2MSD were used as the QC samples for Total Organic Carbon.

General Chemistry By Method SM5540 C-11

Matrix: AQ	Batch ID: GN94223

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86512-8DUP, JC86512-8MS were used as the QC samples for Surfactants, MBAS as LAS.
- JC86512-8 for Surfactants, MBAS as LAS: Molecular weight of the LAS standard is 340 mg/L.
- JC86512-10 for Surfactants, MBAS as LAS: Molecular weight of the LAS standard is 340 mg/L.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JC86512
Account: GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Collected: 04/16/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC86512-1	**045163-MW116**					
1,1-Dichloroethane		22.7	1.0		ug/l	SW846 8260C
1,1-Dichloroethene		9.4	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethene		27.3	1.0		ug/l	SW846 8260C
Tetrachloroethene		129	1.0		ug/l	SW846 8260C
1,1,1-Trichloroethane		1.0	1.0		ug/l	SW846 8260C
Trichloroethene		37.0	1.0		ug/l	SW846 8260C
JC86512-2	**045163-MW118T**					
1,1-Dichloroethane		5.8	1.0		ug/l	SW846 8260C
JC86512-3	**045163-MW119S**					
No hits reported in this sample.						
JC86512-4	**045163-MW119T**					
1,1-Dichloroethane		1.8	1.0		ug/l	SW846 8260C
Tetrachloroethene		2.6	1.0		ug/l	SW846 8260C
Trichloroethene		2.5	1.0		ug/l	SW846 8260C
JC86512-5	**045163-MW120S**					
No hits reported in this sample.						
JC86512-6	**045163-MW120D**					
1,1-Dichloroethane		3.1	1.0		ug/l	SW846 8260C
1,1-Dichloroethene		1.3	1.0		ug/l	SW846 8260C
Tetrachloroethene		7.7	1.0		ug/l	SW846 8260C
Trichloroethene		3.4	1.0		ug/l	SW846 8260C
JC86512-7	**045163-MW202**					
1,1-Dichloroethene		1.5	1.0		ug/l	SW846 8260C
Methyl Tert Butyl Ether		1.0	1.0		ug/l	SW846 8260C
Tetrachloroethene		68.9	1.0		ug/l	SW846 8260C
1,1,1-Trichloroethane		9.8	1.0		ug/l	SW846 8260C
Trichloroethene		2.2	1.0		ug/l	SW846 8260C
JC86512-8	**045163-SHMW2**					
cis-1,2-Dichloroethene		3.1	1.0		ug/l	SW846 8260C

Summary of Hits

Job Number: JC86512
Account: GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Collected: 04/16/19

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
Tetrachloroethene	439	10		ug/l	SW846 8260C
1,1,1-Trichloroethane	14.8	1.0		ug/l	SW846 8260C
Trichloroethene	16.7	1.0		ug/l	SW846 8260C
Methane	0.21	0.11		ug/l	RSK-175
Alkalinity, Total as CaCO3 [a]	143	5.0		mg/l	SM2320 B-11
Chloride	38.6	2.0		mg/l	EPA 300/SW846 9056A
Nitrogen, Nitrate [b]	2.6	0.11		mg/l	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	2.6	0.10		mg/l	EPA 353.2/LACHAT
Sulfate	62.9	2.0		mg/l	EPA 300/SW846 9056A
Total Organic Carbon	1.9	1.0		mg/l	SM5310 B-11
JC86512-9 045163-GEO-1					
Tetrachloroethene	32.9	1.0		ug/l	SW846 8260C
Trichloroethene	1.9	1.0		ug/l	SW846 8260C
JC86512-10 045163-GEO-2					
Tetrachloroethene	26.3	1.0		ug/l	SW846 8260C
1,1,1-Trichloroethane	1.1	1.0		ug/l	SW846 8260C
Trichloroethene	4.4	1.0		ug/l	SW846 8260C
Methane	0.14	0.11		ug/l	RSK-175
Alkalinity, Total as CaCO3 [a]	22.1	5.0		mg/l	SM2320 B-11
Chloride	198	2.0		mg/l	EPA 300/SW846 9056A
Nitrogen, Nitrate [b]	1.7	0.11		mg/l	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	1.7	0.10		mg/l	EPA 353.2/LACHAT
Sulfate	15.9	2.0		mg/l	EPA 300/SW846 9056A
JC86512-11 045163-MW900					
1,1-Dichloroethane	53.9	1.0		ug/l	SW846 8260C
1,1-Dichloroethene	31.3	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethene	112	1.0		ug/l	SW846 8260C
Methyl Tert Butyl Ether	3.5	1.0		ug/l	SW846 8260C
Tetrachloroethene	404	10		ug/l	SW846 8260C
1,1,1-Trichloroethane	2.6	1.0		ug/l	SW846 8260C
Trichloroethene	157	1.0		ug/l	SW846 8260C
Vinyl chloride	20.2	1.0		ug/l	SW846 8260C
JC86512-12 045163-MW901					
Tetrachloroethene	25.6	1.0		ug/l	SW846 8260C
1,1,1-Trichloroethane	1.1	1.0		ug/l	SW846 8260C
Trichloroethene	4.2	1.0		ug/l	SW846 8260C

Summary of Hits

Job Number: JC86512
Account: GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Collected: 04/16/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						

(a) Sample was titrated to a final pH of 4.5.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW116		
Lab Sample ID:	JC86512-1	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146933.D	1	04/23/19 13:11	PR	n/a	n/a	V3D6281
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	22.7	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	9.4	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	27.3	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW116		
Lab Sample ID:	JC86512-1	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	129	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	1.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	37.0	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW116		
Lab Sample ID:	JC86512-1	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%
17060-07-0	1,2-Dichloroethane-D4	98%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	95%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW118T		
Lab Sample ID:	JC86512-2	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146924.D	1	04/23/19 09:25	PR	n/a	n/a	V3D6281
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	5.8	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW118T		
Lab Sample ID:	JC86512-2	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW118T		
Lab Sample ID:	JC86512-2	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		80-120%
17060-07-0	1,2-Dichloroethane-D4	95%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	97%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW119S		
Lab Sample ID:	JC86512-3	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146925.D	1	04/23/19 09:50	PR	n/a	n/a	V3D6281
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW119S		
Lab Sample ID:	JC86512-3	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW119S		
Lab Sample ID:	JC86512-3	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%
17060-07-0	1,2-Dichloroethane-D4	96%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	96%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW119T		
Lab Sample ID:	JC86512-4	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146926.D	1	04/23/19 10:16	PR	n/a	n/a	V3D6281
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	1.8	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW119T		
Lab Sample ID:	JC86512-4	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	2.6	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	2.5	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW119T		
Lab Sample ID:	JC86512-4	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		80-120%
17060-07-0	1,2-Dichloroethane-D4	94%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	97%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW120S		
Lab Sample ID:	JC86512-5	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146927.D	1	04/23/19 10:41	PR	n/a	n/a	V3D6281
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW120S		
Lab Sample ID:	JC86512-5	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW120S		
Lab Sample ID:	JC86512-5	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		80-120%
17060-07-0	1,2-Dichloroethane-D4	95%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	96%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW120D		
Lab Sample ID:	JC86512-6	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146928.D	1	04/23/19 11:06	PR	n/a	n/a	V3D6281
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	3.1	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	1.3	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW120D		
Lab Sample ID:	JC86512-6	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	7.7	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	3.4	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW120D		
Lab Sample ID:	JC86512-6	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%
17060-07-0	1,2-Dichloroethane-D4	98%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	96%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW202		
Lab Sample ID:	JC86512-7	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146929.D	1	04/23/19 11:31	PR	n/a	n/a	V3D6281
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	1.5	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW202		
Lab Sample ID:	JC86512-7	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	68.9	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	9.8	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	2.2	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW202		
Lab Sample ID:	JC86512-7	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		80-120%
17060-07-0	1,2-Dichloroethane-D4	96%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	96%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-SHMW2		
Lab Sample ID:	JC86512-8	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146935.D	1	04/23/19 14:02	PR	n/a	n/a	V3D6281
Run #2	3D146936.D	10	04/23/19 14:27	PR	n/a	n/a	V3D6281

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.1	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-SHMW2		
Lab Sample ID:	JC86512-8	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	439 [b]	10	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	14.8	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	16.7	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-SHMW2		
Lab Sample ID:	JC86512-8	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	99%	80-120%
17060-07-0	1,2-Dichloroethane-D4	96%	95%	81-124%
2037-26-5	Toluene-D8	100%	100%	80-120%
460-00-4	4-Bromofluorobenzene	97%	95%	80-120%

(a) Associated CCV outside of control limits low.
(b) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-SHMW2		
Lab Sample ID:	JC86512-8	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	RSK-175	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA72106.D	1	04/20/19 09:30	GP	n/a	n/a	GAA1691
Run #2							

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	0.21	0.11	ug/l	
74-84-0	Ethane	ND	0.23	ug/l	
74-85-1	Ethene	ND	0.31	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-SHMW2		
Lab Sample ID:	JC86512-8	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
		Percent Solids:	n/a
Project:	Tufts Street, Somerville, MA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Manganese	< 15	15	ug/l	1	04/18/19	04/22/19	ND	SW846 6010D [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA46555
(2) Prep QC Batch: MP14334

RL = Reporting Limit

Report of Analysis

Client Sample ID: 045163-SHMW2
Lab Sample ID: JC86512-8
Matrix: AQ - Ground Water
Project: Tufts Street, Somerville, MA

Date Sampled: 04/16/19
Date Received: 04/16/19
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	143	5.0	mg/l	1	04/22/19 20:55	JO	SM2320 B-11
Chloride	38.6	2.0	mg/l	1	04/19/19 16:24	NV	EPA 300/SW846 9056A
Iron, Ferrous [b]	< 0.20	0.20	mg/l	1	04/17/19 23:45	JO	SM3500FE B-11
Nitrogen, Nitrate [c]	2.6	0.11	mg/l	1	04/19/19 12:44	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	2.6	0.10	mg/l	1	04/19/19 12:44	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	04/17/19 21:40	JO	SM4500NO2 B-11
Sulfate	62.9	2.0	mg/l	1	04/19/19 16:24	NV	EPA 300/SW846 9056A
Sulfide	< 2.0	2.0	mg/l	1	04/18/19 12:49	MP	SM4500S2- F-11
Surfactants, MBAS as LAS [d]	< 0.10	0.10	mg/l	1	04/17/19 20:45	EB	SM5540 C-11
Total Organic Carbon	1.9	1.0	mg/l	1	04/19/19 16:18	CD	SM5310 B-11
Total Residual Chlorine [b]	< 0.10	0.10	mg/l	1	04/17/19 23:57	MO	SM4500CL F-11

(a) Sample was titrated to a final pH of 4.5.
(b) Field analysis required. Received out of hold time and analyzed by request.
(c) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(d) Molecular weight of the LAS standard is 340 mg/L.

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-GEO-1		
Lab Sample ID:	JC86512-9	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146930.D	1	04/23/19 11:56	PR	n/a	n/a	V3D6281
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-GEO-1		
Lab Sample ID:	JC86512-9	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	32.9	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	1.9	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-GEO-1		
Lab Sample ID:	JC86512-9	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-120%
17060-07-0	1,2-Dichloroethane-D4	96%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	96%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-GEO-2		
Lab Sample ID:	JC86512-10	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146931.D	1	04/23/19 12:21	PR	n/a	n/a	V3D6281
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-GEO-2		
Lab Sample ID:	JC86512-10	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	26.3	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	1.1	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	4.4	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-GEO-2		
Lab Sample ID:	JC86512-10	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		80-120%
17060-07-0	1,2-Dichloroethane-D4	95%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	98%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-GEO-2		
Lab Sample ID:	JC86512-10	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	RSK-175	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA72108.D	1	04/20/19 09:59	GP	n/a	n/a	GAA1691
Run #2							

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	0.14	0.11	ug/l	
74-84-0	Ethane	ND	0.23	ug/l	
74-85-1	Ethene	ND	0.31	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-GEO-2		
Lab Sample ID:	JC86512-10	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
		Percent Solids:	n/a
Project:	Tufts Street, Somerville, MA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Manganese	< 15	15	ug/l	1	04/18/19	04/22/19	ND	SW846 6010D [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA46555
(2) Prep QC Batch: MP14334

RL = Reporting Limit

Report of Analysis

Client Sample ID:	045163-GEO-2		
Lab Sample ID:	JC86512-10	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
		Percent Solids:	n/a
Project:	Tufts Street, Somerville, MA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	22.1	5.0	mg/l	1	04/22/19 20:55	JO	SM2320 B-11
Chloride	198	2.0	mg/l	1	04/19/19 17:12	NV	EPA 300/SW846 9056A
Iron, Ferrous [b]	< 0.20	0.20	mg/l	1	04/17/19 23:45	JO	SM3500FE B-11
Nitrogen, Nitrate [c]	1.7	0.11	mg/l	1	04/19/19 12:46	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	1.7	0.10	mg/l	1	04/19/19 12:46	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	04/17/19 21:40	JO	SM4500NO2 B-11
Sulfate	15.9	2.0	mg/l	1	04/19/19 17:12	NV	EPA 300/SW846 9056A
Sulfide	< 2.0	2.0	mg/l	1	04/18/19 12:49	MP	SM4500S2- F-11
Surfactants, MBAS as LAS [d]	< 0.10	0.10	mg/l	1	04/17/19 20:45	EB	SM5540 C-11
Total Organic Carbon	< 1.0	1.0	mg/l	1	04/19/19 16:31	CD	SM5310 B-11
Total Residual Chlorine [b]	< 0.10	0.10	mg/l	1	04/17/19 23:57	MO	SM4500CL F-11

(a) Sample was titrated to a final pH of 4.5.
(b) Field analysis required. Received out of hold time and analyzed by request.
(c) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(d) Molecular weight of the LAS standard is 340 mg/L.

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW900		
Lab Sample ID:	JC86512-11	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146934.D	1	04/23/19 13:36	PR	n/a	n/a	V3D6281
Run #2	3D146939.D	10	04/23/19 15:42	PR	n/a	n/a	V3D6281

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	53.9	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	31.3	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	112	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW900		
Lab Sample ID:	JC86512-11	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	3.5	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	404 [b]	10	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	2.6	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	157	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	20.2	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW900		
Lab Sample ID:	JC86512-11	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	99%	80-120%
17060-07-0	1,2-Dichloroethane-D4	97%	97%	81-124%
2037-26-5	Toluene-D8	101%	100%	80-120%
460-00-4	4-Bromofluorobenzene	96%	97%	80-120%

(a) Associated CCV outside of control limits low.
(b) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	045163-MW901		
Lab Sample ID:	JC86512-12	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3D146932.D	1	04/23/19 12:46	PR	n/a	n/a	V3D6281
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane [a]	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW901		
Lab Sample ID:	JC86512-12	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	25.6	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	1.1	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	4.2	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	045163-MW901		
Lab Sample ID:	JC86512-12	**Date Sampled:**	04/16/19
Matrix:	AQ - Ground Water	**Date Received:**	04/16/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Tufts Street, Somerville, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-120%
17060-07-0	1,2-Dichloroethane-D4	95%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	97%		80-120%

(a) Associated CCV outside of control limits low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

GW

Chain-of-Custody Record

Laboratory: ACCUTEST

Laboratory Job # (Lab use only) JC86512

E

GEI Consultants
400 Unicorn Park Drive
Woburn, MA 01801
PH: 781.721.4000
FX: 781.721.4073

Project Information

Project Name: Tufts St.

Project Location: Somerville, MA

Project Number: 045163

Project Manager: Joe Roman

Send Report to: Molly Greer

Send EDD to: labdata@geiconsultants.com

MCP PRESUMPTIVE CERTAINTY REQUIRED -- (YES) NO

If Yes, Are MCP Analytical Methods Required? (YES) NO NA

If Yes, Are Drinking Water Samples Submitted? YES (NO) NA

If Yes, Have You Met Minimum Field QC Requirements? (YES) NO NA

Preservative

HCl	HCl	None	NaOH + Zn Acetate	HCl ~~H_2SO_4~~	HNO_3	H_2SO_4	

Analysis

Lab Sample Number	GEI Sample ID	Collection Date	Collection Time	Matrix	No. of Bottles	Sampler(s) Initials	VOCs 8260	Methane, Ethane, Ethene	Alkalinity, Cl⁻, TRCl, Fe II, N, NO_3, SO_4, Surfactants	Sulfide	TOC	Manganese	NO_2 & NO_3 as Nitrogen		Sample Specific Remarks
1	045163-MW116	4/16/19	1400	GW	3	EJF	X								A18
2	045163-MW118T	4/16/19	1040	GW	3	EJF	X								633
3	045163-MW119S	4/16/19	0940	GW	3	BRL	X								1951
4	045163-MW119T	4/16/19	0955	GW	3	BRL	X								V916
5	045163-MW120S	4/16/19	1215	GW	3	BRL	X								
6	045163-MW120D	4/16/19	1125	GW	3	BRL	X								
7	045163-MW202	4/16/19	0950	GW	3	MEG	X								
8	045163-SHMW2	4/16/19	1400	GW	24	MEG	X	X	X	X	X	X	X		MS/MSD VOCs
9	045163-GEO-1	4/16/19	1215	GW	3	BRL	X								
10	045163-GEO-2	4/16/19	1130	GW	18	MEG	X	X	X	X	X	X	X		
11	045163-MW900	4/16/19	1200	GW	3	EJF	X								
12	045163-MW901	4/16/19	1200	GW	3	MEG	X								

Sample Handling

Samples Field Filtered: YES (NO) NA

Sampled Shipped With Ice: (YES) NO

MCP Level Needed: GEI requires the most stringent Method 1 MCP standard be met for all analytes whenever possible.

Turnaround Time (Business days):

Normal __X__ Other ____

10-Day ____ 7-Day ____

5-Day ____ 3-Day ____

Before submitting rush turnaround samples, you **must** notify the laboratory to confirm that the TAT can be achieved.

	Relinquished by sampler: (signature)	Date:	Time:	Received by: (signature)
1.	Molly Greer	4/16/19	1520	
2.		4/16/19	1655	
3.		4/16/19	18:30	FedEx
4.	FedEx	4/17/19	0430	

Additional Requirements/Comments/Remarks:

INITIAL ASSESSMENT ~~HOLD~~

LABEL VERIFICATION ____ SGS-ACCUTEST MARLBOR

STAT 070863 4/16

On ice 2.4°C

4/9/2019

N:\04516\14.0 Field Program\14.4 Sampling Sheets and Surveys\14.4.1 Groundwater Sampling\COC full round April 2019.xls

5.1 5

JC86512: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC86512 **Client:** _____ **Project:** _____

Date / Time Received: 4/16/2019 6:30:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (2.4);

Cooler Temps (Corrected) °C: Cooler 1: (1.4);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 206717 pH 12+: 208717 Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JC86512: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

GEI Consultants, Inc.

Job No: JC86512

Tufts Street, Somerville, MA
Project No: 045163

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC86512-1	Collected: 16-APR-19 14:00 By: 045163-MW116		Received: 16-APR-19		By: DG	
JC86512-1	SW846 8260C	23-APR-19 13:11	PR			V8260MCP
JC86512-2	Collected: 16-APR-19 10:40 By: 045163-MW118T		Received: 16-APR-19		By: DG	
JC86512-2	SW846 8260C	23-APR-19 09:25	PR			V8260MCP
JC86512-3	Collected: 16-APR-19 09:40 By: 045163-MW119S		Received: 16-APR-19		By: DG	
JC86512-3	SW846 8260C	23-APR-19 09:50	PR			V8260MCP
JC86512-4	Collected: 16-APR-19 09:55 By: 045163-MW119T		Received: 16-APR-19		By: DG	
JC86512-4	SW846 8260C	23-APR-19 10:16	PR			V8260MCP
JC86512-5	Collected: 16-APR-19 12:15 By: 045163-MW120S		Received: 16-APR-19		By: DG	
JC86512-5	SW846 8260C	23-APR-19 10:41	PR			V8260MCP
JC86512-6	Collected: 16-APR-19 11:25 By: 045163-MW120D		Received: 16-APR-19		By: DG	
JC86512-6	SW846 8260C	23-APR-19 11:06	PR			V8260MCP
JC86512-7	Collected: 16-APR-19 09:50 By: 045163-MW202		Received: 16-APR-19		By: DG	
JC86512-7	SW846 8260C	23-APR-19 11:31	PR			V8260MCP
JC86512-8	Collected: 16-APR-19 14:00 By: 045163-SHMW2		Received: 16-APR-19		By: DG	
JC86512-8	SM5540 C-11	17-APR-19 20:45	EB			MBAS
JC86512-8	SM4500NO2 B-11	17-APR-19 21:40	JO			NO2

Internal Sample Tracking Chronicle

GEI Consultants, Inc.

Job No: JC86512

Tufts Street, Somerville, MA
Project No: 045163

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC86512-8	SM3500FE B-11	17-APR-19 23:45	JO			FE2
JC86512-8	SM4500CL F-11	17-APR-19 23:57	MO			TRC
JC86512-8	SM4500S2- F-11	18-APR-19 12:49	MP			S
JC86512-8	EPA353.2/SM4500NO2B	19-APR-19 12:44	KI			NO3O
JC86512-8	EPA 353.2/LACHAT	19-APR-19 12:44	KI	19-APR-19	KI	NO32
JC86512-8	SM5310 B-11	19-APR-19 16:18	CD	19-APR-19	CD	TOC
JC86512-8	EPA 300/SW846 9056A	19-APR-19 16:24	NV	19-APR-19	NV	CHL,SO4
JC86512-8	RSK-175	20-APR-19 09:30	GP			VRSK175DGMEE
JC86512-8	SW846 6010D	22-APR-19 15:33	ND	18-APR-19	GT	MN
JC86512-8	SM2320 B-11	22-APR-19 20:55	JO			ALK
JC86512-8	SW846 8260C	23-APR-19 14:02	PR			V8260MCP
JC86512-8	SW846 8260C	23-APR-19 14:27	PR			V8260MCP
JC86512-9	Collected: 16-APR-19 12:15 By: 045163-GEO-1		Received: 16-APR-19 By: DG			
JC86512-9	SW846 8260C	23-APR-19 11:56	PR			V8260MCP
JC86512-10	Collected: 16-APR-19 11:30 By: 045163-GEO-2		Received: 16-APR-19 By: DG			
JC86512-10	SM5540 C-11	17-APR-19 20:45	EB			MBAS
JC86512-10	SM4500NO2 B-11	17-APR-19 21:40	JO			NO2
JC86512-10	SM3500FE B-11	17-APR-19 23:45	JO			FE2
JC86512-10	SM4500CL F-11	17-APR-19 23:57	MO			TRC
JC86512-10	SM4500S2- F-11	18-APR-19 12:49	MP			S
JC86512-10	EPA353.2/SM4500NO2B	19-APR-19 12:46	KI			NO3O
JC86512-10	EPA 353.2/LACHAT	19-APR-19 12:46	KI	19-APR-19	KI	NO32
JC86512-10	SM5310 B-11	19-APR-19 16:31	CD	19-APR-19	CD	TOC
JC86512-10	EPA 300/SW846 9056A	19-APR-19 17:12	NV	19-APR-19	NV	CHL,SO4
JC86512-10	RSK-175	20-APR-19 09:59	GP			VRSK175DGMEE
JC86512-10	SW846 6010D	22-APR-19 15:38	ND	18-APR-19	GT	MN
JC86512-10	SM2320 B-11	22-APR-19 20:55	JO			ALK
JC86512-10	SW846 8260C	23-APR-19 12:21	PR			V8260MCP
JC86512-11	Collected: 16-APR-19 12:00 By: 045163-MW900		Received: 16-APR-19 By: DG			
JC86512-11	SW846 8260C	23-APR-19 13:36	PR			V8260MCP
JC86512-11	SW846 8260C	23-APR-19 15:42	PR			V8260MCP

Internal Sample Tracking Chronicle

GEI Consultants, Inc.

Job No: JC86512

Tufts Street, Somerville, MA
Project No: 045163

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC86512-12 Collected: 16-APR-19 12:00 By: 045163-MW901			Received: 16-APR-19 By: DG			
JC86512-12	SW846 8260C	23-APR-19 12:46	PR			V8260MCP

SGS Internal Chain of Custody

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Received: 04/16/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86512-1.1	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-1.1	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-1.1	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-1.1	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage
JC86512-1.2	Secured Storage	Jessica Potts	04/23/19 09:05	Retrieve from Storage
JC86512-1.2	Jessica Potts	GCMS3D	04/23/19 09:05	Load on Instrument
JC86512-1.2	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-1.2	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-2.1	Secured Storage	Jessica Potts	04/23/19 09:05	Retrieve from Storage
JC86512-2.1	Jessica Potts	GCMS3D	04/23/19 09:05	Load on Instrument
JC86512-2.1	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-2.1	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-2.2	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-2.2	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-2.2	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-2.2	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage
JC86512-3.1	Secured Storage	Jessica Potts	04/23/19 09:05	Retrieve from Storage
JC86512-3.1	Jessica Potts	GCMS3D	04/23/19 09:05	Load on Instrument
JC86512-3.1	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-3.1	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-3.2	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-3.2	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-3.2	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-3.2	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage
JC86512-4.1	Secured Storage	Jessica Potts	04/23/19 09:05	Retrieve from Storage
JC86512-4.1	Jessica Potts	GCMS3D	04/23/19 09:05	Load on Instrument
JC86512-4.1	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-4.1	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-4.2	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-4.2	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-4.2	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-4.2	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage
JC86512-5.1	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-5.1	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-5.1	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-5.1	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage

SGS Internal Chain of Custody

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Received: 04/16/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86512-5.2	Secured Storage	Jessica Potts	04/23/19 09:05	Retrieve from Storage
JC86512-5.2	Jessica Potts	GCMS3D	04/23/19 09:05	Load on Instrument
JC86512-5.2	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-5.2	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-6.1	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-6.1	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-6.1	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-6.1	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage
JC86512-6.2	Secured Storage	Jessica Potts	04/23/19 09:05	Retrieve from Storage
JC86512-6.2	Jessica Potts	GCMS3D	04/23/19 09:05	Load on Instrument
JC86512-6.2	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-6.2	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-7.1	Secured Storage	Jessica Potts	04/23/19 09:05	Retrieve from Storage
JC86512-7.1	Jessica Potts	GCMS3D	04/23/19 09:05	Load on Instrument
JC86512-7.1	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-7.1	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-7.2	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-7.2	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-7.2	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-7.2	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage
JC86512-8.1	Secured Storage	Todd Shoemaker	04/18/19 08:27	Retrieve from Storage
JC86512-8.1	Todd Shoemaker	Secured Staging Area	04/18/19 08:27	Return to Storage
JC86512-8.1	Secured Staging Area	Taylor Gorman	04/18/19 08:32	Retrieve from Storage
JC86512-8.1	Taylor Gorman	Secured Storage	04/18/19 10:08	Return to Storage
JC86512-8.1.1	Taylor Gorman	Metals Digestion	04/18/19 09:40	Digestate from JC86512-8.1
JC86512-8.1.1	Metals Digestion	Taylor Gorman	04/18/19 09:42	Digestate from JC86512-8.1
JC86512-8.1.1	Taylor Gorman	Metals Digestate Storage	04/18/19 09:42	Return to Storage
JC86512-8.3	Secured Storage	Todd Shoemaker	04/17/19 14:24	Retrieve from Storage
JC86512-8.3	Todd Shoemaker	Secured Staging Area	04/17/19 14:24	Return to Storage
JC86512-8.3	Secured Staging Area	Dave Hunkele	04/20/19 05:16	Retrieve from Storage
JC86512-8.3	Dave Hunkele	Secured Storage	04/20/19 05:18	Return to Storage
JC86512-8.4	Secured Storage	Todd Shoemaker	04/19/19 10:18	Retrieve from Storage
JC86512-8.4	Todd Shoemaker	Secured Staging Area	04/19/19 10:18	Return to Storage
JC86512-8.4	Secured Staging Area	Kimberly Ignace	04/19/19 12:41	Retrieve from Storage
JC86512-8.4	Kimberly Ignace	Secured Storage	04/19/19 19:03	Return to Storage

SGS Internal Chain of Custody

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Received: 04/16/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86512-8.5	Secured Storage	Todd Shoemaker	04/22/19 11:28	Retrieve from Storage
JC86512-8.5	Todd Shoemaker	Secured Staging Area	04/22/19 11:28	Return to Storage
JC86512-8.5	Secured Staging Area	John Oborne	04/22/19 16:26	Retrieve from Storage
JC86512-8.5	John Oborne	Secured Storage	04/23/19 00:02	Return to Storage
JC86512-8.6	Secured Storage	Todd Shoemaker	04/17/19 14:26	Retrieve from Storage
JC86512-8.6	Todd Shoemaker	Secured Staging Area	04/17/19 14:27	Return to Storage
JC86512-8.6	Secured Staging Area	Michael Olcott	04/17/19 16:39	Retrieve from Storage
JC86512-8.6	Michael Olcott	Secured Storage	04/18/19 00:03	Return to Storage
JC86512-8.6	Secured Storage	Sahara Feliciano	04/18/19 22:27	Retrieve from Storage
JC86512-8.6	Sahara Feliciano	Secured Staging Area	04/18/19 22:27	Return to Storage
JC86512-8.6	Secured Staging Area	Natasha Verma	04/19/19 09:20	Retrieve from Storage
JC86512-8.6	Secured Staging Area	Todd Shoemaker	04/22/19 07:37	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC86512-8.6	Todd Shoemaker	Secured Storage	04/22/19 07:37	Return to Storage
JC86512-8.6	Secured Storage	Todd Shoemaker	04/22/19 09:09	Retrieve from Storage
JC86512-8.6	Todd Shoemaker	Secured Staging Area	04/22/19 09:09	Return to Storage
JC86512-8.6	Secured Staging Area	Natasha Verma	04/23/19 09:13	Retrieve from Storage
JC86512-8.6	Natasha Verma	Secured Storage	04/23/19 12:15	Return to Storage
JC86512-8.7	Secured Storage	Todd Shoemaker	04/17/19 14:24	Retrieve from Storage
JC86512-8.7	Todd Shoemaker	Secured Staging Area	04/17/19 14:24	Return to Storage
JC86512-8.7	Secured Staging Area	Dave Hunkele	04/20/19 05:16	Retrieve from Storage
JC86512-8.7	Dave Hunkele	Secured Storage	04/20/19 05:18	Return to Storage
JC86512-8.8	Secured Storage	Todd Shoemaker	04/17/19 14:15	Retrieve from Storage
JC86512-8.8	Todd Shoemaker	Secured Staging Area	04/17/19 14:16	Return to Storage
JC86512-8.8	Secured Staging Area	Elaine Banting	04/18/19 00:47	Retrieve from Storage
JC86512-8.8	Elaine Banting	Secured Storage	04/18/19 00:49	Return to Storage
JC86512-8.10	Secured Storage	Dwayne Johnson	04/18/19 09:11	Retrieve from Storage
JC86512-8.10	Dwayne Johnson	Secured Staging Area	04/18/19 09:12	Return to Storage
JC86512-8.10	Secured Staging Area	Mahendra Patel	04/18/19 09:20	Retrieve from Storage
JC86512-8.10	Mahendra Patel		04/18/19 15:40	Depleted
JC86512-8.11	Secured Storage	Dwayne Johnson	04/18/19 09:11	Retrieve from Storage
JC86512-8.11	Dwayne Johnson	Secured Staging Area	04/18/19 09:12	Return to Storage
JC86512-8.11	Secured Staging Area	Mahendra Patel	04/18/19 09:20	Retrieve from Storage
JC86512-8.11	Mahendra Patel		04/18/19 15:40	Depleted
JC86512-8.12	Secured Storage	Todd Shoemaker	04/19/19 09:10	Retrieve from Storage
JC86512-8.12	Todd Shoemaker	Secured Staging Area	04/19/19 09:10	Return to Storage
JC86512-8.12	Secured Staging Area	Dave Hunkele	04/23/19 05:26	Retrieve from Storage

SGS Internal Chain of Custody

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Received: 04/16/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86512-8.12	Dave Hunkele	Secured Storage	04/23/19 05:29	Return to Storage
JC86512-8.13	Secured Storage	Todd Shoemaker	04/19/19 09:10	Retrieve from Storage
JC86512-8.13	Todd Shoemaker	Secured Staging Area	04/19/19 09:10	Return to Storage
JC86512-8.13	Secured Staging Area	Dave Hunkele	04/23/19 05:26	Retrieve from Storage
JC86512-8.13	Dave Hunkele	Secured Storage	04/23/19 05:29	Return to Storage
JC86512-8.16	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-8.16	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-8.16	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-8.16	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage
JC86512-8.17	Secured Storage	Jessica Potts	04/23/19 11:57	Retrieve from Storage
JC86512-8.17	Jessica Potts	GCMS3D	04/23/19 11:57	Load on Instrument
JC86512-8.17	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-8.17	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-8.18	Secured Storage	Jessica Potts	04/23/19 11:57	Retrieve from Storage
JC86512-8.18	Jessica Potts	GCMS3D	04/23/19 11:57	Load on Instrument
JC86512-8.18	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-8.18	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-8.20	Secured Storage	Gabriella Pericone	04/20/19 06:39	Retrieve from Storage
JC86512-8.20	Gabriella Pericone		04/20/19 13:41	Disposed
JC86512-8.21	Secured Storage	Jessica Potts	04/23/19 11:23	Retrieve from Storage
JC86512-8.21	Jessica Potts	GCMS3D	04/23/19 11:23	Load on Instrument
JC86512-8.21	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-8.21	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-9.1	Secured Storage	Jessica Potts	04/23/19 09:05	Retrieve from Storage
JC86512-9.1	Jessica Potts	GCMS3D	04/23/19 09:05	Load on Instrument
JC86512-9.1	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-9.1	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-9.2	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-9.2	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-9.2	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-9.2	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage
JC86512-10.1	Secured Storage	Todd Shoemaker	04/18/19 08:27	Retrieve from Storage
JC86512-10.1	Todd Shoemaker	Secured Staging Area	04/18/19 08:27	Return to Storage
JC86512-10.1	Secured Staging Area	Taylor Gorman	04/18/19 08:32	Retrieve from Storage
JC86512-10.1	Taylor Gorman	Secured Storage	04/18/19 10:08	Return to Storage

SGS Internal Chain of Custody

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Received: 04/16/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86512-10.1.1	Taylor Gorman	Metals Digestion	04/18/19 09:40	Digestate from JC86512-10.1
JC86512-10.1.1	Metals Digestion	Taylor Gorman	04/18/19 09:42	Digestate from JC86512-10.1
JC86512-10.1.1	Taylor Gorman	Metals Digestate Storage	04/18/19 09:42	Return to Storage
JC86512-10.3	Secured Storage	Todd Shoemaker	04/17/19 14:24	Retrieve from Storage
JC86512-10.3	Todd Shoemaker	Secured Staging Area	04/17/19 14:24	Return to Storage
JC86512-10.3	Secured Staging Area	Dave Hunkele	04/20/19 05:16	Retrieve from Storage
JC86512-10.3	Dave Hunkele	Secured Storage	04/20/19 05:18	Return to Storage
JC86512-10.4	Secured Storage	Todd Shoemaker	04/19/19 10:18	Retrieve from Storage
JC86512-10.4	Todd Shoemaker	Secured Staging Area	04/19/19 10:18	Return to Storage
JC86512-10.4	Secured Staging Area	Kimberly Ignace	04/19/19 12:41	Retrieve from Storage
JC86512-10.4	Kimberly Ignace	Secured Storage	04/19/19 19:03	Return to Storage
JC86512-10.5	Secured Storage	Todd Shoemaker	04/22/19 11:28	Retrieve from Storage
JC86512-10.5	Todd Shoemaker	Secured Staging Area	04/22/19 11:28	Return to Storage
JC86512-10.5	Secured Staging Area	John Oborne	04/22/19 16:26	Retrieve from Storage
JC86512-10.5	John Oborne	Secured Storage	04/23/19 00:02	Return to Storage
JC86512-10.6	Secured Storage	Todd Shoemaker	04/17/19 14:24	Retrieve from Storage
JC86512-10.6	Todd Shoemaker	Secured Staging Area	04/17/19 14:24	Return to Storage
JC86512-10.6	Secured Staging Area	Dave Hunkele	04/20/19 05:16	Retrieve from Storage
JC86512-10.6	Dave Hunkele	Secured Storage	04/20/19 05:18	Return to Storage
JC86512-10.7	Secured Storage	Todd Shoemaker	04/17/19 14:15	Retrieve from Storage
JC86512-10.7	Todd Shoemaker	Secured Staging Area	04/17/19 14:16	Return to Storage
JC86512-10.7	Secured Staging Area	Elaine Banting	04/18/19 00:47	Retrieve from Storage
JC86512-10.7	Elaine Banting	Secured Storage	04/18/19 00:49	Return to Storage
JC86512-10.8	Secured Storage	Dwayne Johnson	04/18/19 09:11	Retrieve from Storage
JC86512-10.8	Dwayne Johnson	Secured Staging Area	04/18/19 09:12	Return to Storage
JC86512-10.8	Secured Staging Area	Mahendra Patel	04/18/19 09:20	Retrieve from Storage
JC86512-10.8	Mahendra Patel		04/18/19 15:40	Depleted
JC86512-10.9	Secured Storage	Dwayne Johnson	04/18/19 09:11	Retrieve from Storage
JC86512-10.9	Dwayne Johnson	Secured Staging Area	04/18/19 09:12	Return to Storage
JC86512-10.9	Secured Staging Area	Mahendra Patel	04/18/19 09:20	Retrieve from Storage
JC86512-10.9	Mahendra Patel	Secured Storage	04/18/19 15:41	Return to Storage
JC86512-10.10	Secured Storage	Todd Shoemaker	04/19/19 09:10	Retrieve from Storage
JC86512-10.10	Todd Shoemaker	Secured Staging Area	04/19/19 09:10	Return to Storage
JC86512-10.10	Secured Staging Area	Dave Hunkele	04/23/19 05:26	Retrieve from Storage
JC86512-10.10	Dave Hunkele	Secured Storage	04/23/19 05:29	Return to Storage

SGS Internal Chain of Custody

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Received: 04/16/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86512-10.11	Secured Storage	Todd Shoemaker	04/19/19 09:10	Retrieve from Storage
JC86512-10.11	Todd Shoemaker	Secured Staging Area	04/19/19 09:10	Return to Storage
JC86512-10.11	Secured Staging Area	Dave Hunkele	04/23/19 05:26	Retrieve from Storage
JC86512-10.11	Dave Hunkele	Secured Storage	04/23/19 05:29	Return to Storage
JC86512-10.12	Secured Storage	Jessica Potts	04/23/19 09:05	Retrieve from Storage
JC86512-10.12	Jessica Potts	GCMS3D	04/23/19 09:05	Load on Instrument
JC86512-10.12	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-10.12	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-10.13	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-10.13	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-10.13	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-10.13	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage
JC86512-10.16	Secured Storage	Gabriella Pericone	04/20/19 06:39	Retrieve from Storage
JC86512-10.16	Gabriella Pericone		04/20/19 13:41	Disposed
JC86512-10.18	Secured Storage	Todd Shoemaker	04/17/19 14:26	Retrieve from Storage
JC86512-10.18	Todd Shoemaker	Secured Staging Area	04/17/19 14:27	Return to Storage
JC86512-10.18	Secured Staging Area	Michael Olcott	04/17/19 16:39	Retrieve from Storage
JC86512-10.18	Michael Olcott	Secured Storage	04/18/19 00:03	Return to Storage
JC86512-10.18	Secured Storage	Sahara Feliciano	04/18/19 22:27	Retrieve from Storage
JC86512-10.18	Sahara Feliciano	Secured Staging Area	04/18/19 22:27	Return to Storage
JC86512-10.18	Secured Staging Area	Natasha Verma	04/19/19 09:20	Retrieve from Storage
JC86512-10.18	Secured Staging Area	Todd Shoemaker	04/22/19 07:37	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC86512-10.18	Todd Shoemaker	Secured Storage	04/22/19 07:37	Return to Storage
JC86512-10.18	Secured Storage	Todd Shoemaker	04/22/19 09:09	Retrieve from Storage
JC86512-10.18	Todd Shoemaker	Secured Staging Area	04/22/19 09:09	Return to Storage
JC86512-10.18	Secured Staging Area	Natasha Verma	04/23/19 09:13	Retrieve from Storage
JC86512-10.18	Natasha Verma	Secured Storage	04/23/19 12:15	Return to Storage
JC86512-11.1	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-11.1	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-11.1	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-11.1	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage
JC86512-11.2	Secured Storage	Jessica Potts	04/23/19 11:23	Retrieve from Storage
JC86512-11.2	Jessica Potts	GCMS3D	04/23/19 11:23	Load on Instrument
JC86512-11.2	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-11.2	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage

SGS Internal Chain of Custody

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA
Received: 04/16/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86512-12.1	Secured Storage	Jessica Potts	04/23/19 09:05	Retrieve from Storage
JC86512-12.1	Jessica Potts	GCMS3D	04/23/19 09:05	Load on Instrument
JC86512-12.1	GCMS3D	Jessica Potts	04/24/19 06:18	Unload from Instrument
JC86512-12.1	Jessica Potts	Secured Storage	04/24/19 06:19	Return to Storage
JC86512-12.2	Secured Storage	Devin Gomez	04/18/19 23:02	Retrieve from Storage
JC86512-12.2	Devin Gomez	GCMS1A	04/18/19 23:02	Load on Instrument
JC86512-12.2	GCMS1A	Krizhka Cuenta	04/19/19 08:45	Unload from Instrument
JC86512-12.2	Krizhka Cuenta	Secured Storage	04/19/19 08:45	Return to Storage

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6281-MB	3D146923.D	1	04/23/19	PR	n/a	n/a	V3D6281

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86512-1, JC86512-2, JC86512-3, JC86512-4, JC86512-5, JC86512-6, JC86512-7, JC86512-8, JC86512-9, JC86512-10, JC86512-11, JC86512-12

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	ug/l	
74-97-5	Bromochloromethane	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	ug/l	

Method Blank Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6281-MB	3D146923.D	1	04/23/19	PR	n/a	n/a	V3D6281

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86512-1, JC86512-2, JC86512-3, JC86512-4, JC86512-5, JC86512-6, JC86512-7, JC86512-8, JC86512-9, JC86512-10, JC86512-11, JC86512-12

CAS No.	Compound	Result	RL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
123-91-1	1,4-Dioxane	ND	130	ug/l	
60-29-7	Ethyl Ether	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	ug/l	
100-42-5	Styrene	ND	1.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

Method Blank Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6281-MB	3D146923.D	1	04/23/19	PR	n/a	n/a	V3D6281

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86512-1, JC86512-2, JC86512-3, JC86512-4, JC86512-5, JC86512-6, JC86512-7, JC86512-8, JC86512-9, JC86512-10, JC86512-11, JC86512-12

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	80-120%
17060-07-0	1,2-Dichloroethane-D4	97%	81-124%
2037-26-5	Toluene-D8	100%	80-120%
460-00-4	4-Bromofluorobenzene	97%	80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6281-BS	3D146920.D	1	04/23/19	PR	n/a	n/a	V3D6281
V3D6281-BSD	3D146921.D	1	04/23/19	PR	n/a	n/a	V3D6281

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86512-1, JC86512-2, JC86512-3, JC86512-4, JC86512-5, JC86512-6, JC86512-7, JC86512-8, JC86512-9, JC86512-10, JC86512-11, JC86512-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	200	228	114	224	112	2	42-150/22
71-43-2	Benzene	50	53.9	108	54.3	109	1	80-120/20
108-86-1	Bromobenzene	50	50.0	100	50.8	102	2	82-118/20
74-97-5	Bromochloromethane	50	55.6	111	55.2	110	1	84-121/20
75-27-4	Bromodichloromethane	50	54.8	110	55.7	111	2	83-120/20
75-25-2	Bromoform	50	59.1	118	59.7	119	1	76-129/20
74-83-9	Bromomethane	50	40.2	80	41.5	83	3	57-138/20
78-93-3	2-Butanone (MEK)	200	223	112	226	113	1	64-137/20
104-51-8	n-Butylbenzene	50	51.3	103	53.2	106	4	81-123/20
135-98-8	sec-Butylbenzene	50	50.2	100	50.9	102	1	84-121/20
98-06-6	tert-Butylbenzene	50	49.2	98	49.8	100	1	83-122/20
75-15-0	Carbon disulfide	50	50.4	101	50.9	102	1	64-137/20
56-23-5	Carbon tetrachloride	50	50.7	101	51.8	104	2	75-135/20
108-90-7	Chlorobenzene	50	50.4	101	50.9	102	1	84-117/20
75-00-3	Chloroethane	50	50.9	102	50.1	100	2	63-132/20
67-66-3	Chloroform	50	50.3	101	50.3	101	0	80-119/20
74-87-3	Chloromethane	50	46.5	93	46.2	92	1	46-136/20
95-49-8	o-Chlorotoluene	50	49.8	100	50.2	100	1	84-118/20
106-43-4	p-Chlorotoluene	50	50.0	100	49.8	100	0	83-116/20
108-20-3	Di-Isopropyl ether	50	56.2	112	55.7	111	1	73-128/20
96-12-8	1,2-Dibromo-3-chloropropane	50	51.1	102	50.7	101	1	72-127/20
124-48-1	Dibromochloromethane	50	58.8	118	58.3	117	1	80-123/20
106-93-4	1,2-Dibromoethane	50	56.4	113	56.3	113	0	84-117/20
95-50-1	1,2-Dichlorobenzene	50	48.9	98	49.9	100	2	84-119/20
541-73-1	1,3-Dichlorobenzene	50	49.3	99	50.4	101	2	81-117/20
106-46-7	1,4-Dichlorobenzene	50	49.6	99	50.5	101	2	82-117/20
75-71-8	Dichlorodifluoromethane	50	53.1	106	52.9	106	0	36-149/20
75-34-3	1,1-Dichloroethane	50	54.3	109	54.1	108	0	79-120/20
107-06-2	1,2-Dichloroethane	50	47.7	95	48.1	96	1	78-126/20
75-35-4	1,1-Dichloroethene	50	52.6	105	53.7	107	2	69-126/20
156-59-2	cis-1,2-Dichloroethene	50	52.9	106	53.4	107	1	80-120/20
156-60-5	trans-1,2-Dichloroethene	50	51.9	104	52.1	104	0	76-120/20
78-87-5	1,2-Dichloropropane	50	56.5	113	56.5	113	0	82-121/20
142-28-9	1,3-Dichloropropane	50	53.8	108	54.1	108	1	83-115/20
594-20-7	2,2-Dichloropropane	50	50.7	101	51.1	102	1	65-133/20
563-58-6	1,1-Dichloropropene	50	52.2	104	52.5	105	1	80-121/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6281-BS	3D146920.D	1	04/23/19	PR	n/a	n/a	V3D6281
V3D6281-BSD	3D146921.D	1	04/23/19	PR	n/a	n/a	V3D6281

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86512-1, JC86512-2, JC86512-3, JC86512-4, JC86512-5, JC86512-6, JC86512-7, JC86512-8, JC86512-9, JC86512-10, JC86512-11, JC86512-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	54.5	109	55.5	111	2	83-120/20
10061-02-6	trans-1,3-Dichloropropene	50	51.5	103	52.8	106	2	82-121/20
123-91-1	1,4-Dioxane	1250	1260	101	1280	102	2	52-147/20
60-29-7	Ethyl Ether	50	57.2	114	56.1	112	2	78-124/20
100-41-4	Ethylbenzene	50	52.1	104	52.5	105	1	80-120/20
87-68-3	Hexachlorobutadiene	50	46.5	93	48.9	98	5	75-129/20
591-78-6	2-Hexanone	200	227	114	228	114	0	65-132/20
98-82-8	Isopropylbenzene	50	51.3	103	52.2	104	2	83-120/20
99-87-6	p-Isopropyltoluene	50	50.2	100	50.7	101	1	83-122/20
1634-04-4	Methyl Tert Butyl Ether	50	53.9	108	53.8	108	0	80-119/20
108-10-1	4-Methyl-2-pentanone(MIBK)	200	230	115	230	115	0	71-131/20
74-95-3	Methylene bromide	50	54.1	108	53.8	108	1	85-120/20
75-09-2	Methylene chloride	50	50.7	101	51.2	102	1	77-120/20
91-20-3	Naphthalene	50	47.0	94	48.7	97	4	73-131/20
103-65-1	n-Propylbenzene	50	50.9	102	51.6	103	1	82-119/20
100-42-5	Styrene	50	52.1	104	52.8	106	1	82-122/20
994-05-8	tert-Amyl Methyl Ether	50	51.3	103	51.7	103	1	81-124/20
637-92-3	tert-Butyl Ethyl Ether	50	54.2	108	54.0	108	0	79-128/20
630-20-6	1,1,1,2-Tetrachloroethane	50	53.2	106	53.1	106	0	82-121/20
79-34-5	1,1,2,2-Tetrachloroethane	50	54.0	108	53.9	108	0	76-119/20
127-18-4	Tetrachloroethene	50	51.9	104	52.7	105	2	70-131/20
109-99-9	Tetrahydrofuran	50	52.4	105	54.0	108	3	64-129/20
108-88-3	Toluene	50	51.8	104	52.4	105	1	80-120/20
87-61-6	1,2,3-Trichlorobenzene	50	48.7	97	50.5	101	4	76-134/20
120-82-1	1,2,4-Trichlorobenzene	50	50.3	101	51.8	104	3	79-132/20
71-55-6	1,1,1-Trichloroethane	50	49.5	99	50.0	100	1	81-128/20
79-00-5	1,1,2-Trichloroethane	50	54.0	108	54.2	108	0	83-118/20
79-01-6	Trichloroethene	50	51.4	103	52.7	105	2	80-120/20
75-69-4	Trichlorofluoromethane	50	49.3	99	50.5	101	2	64-136/20
96-18-4	1,2,3-Trichloropropane	50	50.0	100	50.1	100	0	79-120/20
95-63-6	1,2,4-Trimethylbenzene	50	50.5	101	51.0	102	1	84-120/20
108-67-8	1,3,5-Trimethylbenzene	50	50.1	100	50.5	101	1	83-119/20
75-01-4	Vinyl chloride	50	53.3	107	53.0	106	1	51-135/20
	m,p-Xylene	100	102	102	104	104	2	80-120/20
95-47-6	o-Xylene	50	51.1	102	51.5	103	1	80-120/20
1330-20-7	Xylene (total)	150	153	102	155	103	1	80-120/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D6281-BS	3D146920.D	1	04/23/19	PR	n/a	n/a	V3D6281
V3D6281-BSD	3D146921.D	1	04/23/19	PR	n/a	n/a	V3D6281

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86512-1, JC86512-2, JC86512-3, JC86512-4, JC86512-5, JC86512-6, JC86512-7, JC86512-8, JC86512-9, JC86512-10, JC86512-11, JC86512-12

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	100%	99%	80-120%
17060-07-0	1,2-Dichloroethane-D4	94%	93%	81-124%
2037-26-5	Toluene-D8	101%	100%	80-120%
460-00-4	4-Bromofluorobenzene	97%	97%	80-120%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86512-8MS	3D146937.D	1	04/23/19	PR	n/a	n/a	V3D6281
JC86512-8MSD	3D146938.D	1	04/23/19	PR	n/a	n/a	V3D6281
JC86512-8	3D146935.D	1	04/23/19	PR	n/a	n/a	V3D6281
JC86512-8	3D146936.D	10	04/23/19	PR	n/a	n/a	V3D6281

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86512-1, JC86512-2, JC86512-3, JC86512-4, JC86512-5, JC86512-6, JC86512-7, JC86512-8, JC86512-9, JC86512-10, JC86512-11, JC86512-12

CAS No.	Compound	JC86512-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		200	219	110	200	216	108	1	34-149/17
71-43-2	Benzene	ND		50	53.2	106	50	55.1	110	4	54-136/10
108-86-1	Bromobenzene	ND		50	48.5	97	50	49.6	99	2	78-122/11
74-97-5	Bromochloromethane	ND		50	53.9	108	50	55.2	110	2	79-124/11
75-27-4	Bromodichloromethane	ND		50	53.6	107	50	55.6	111	4	79-124/11
75-25-2	Bromoform	ND		50	55.8	112	50	56.7	113	2	71-130/11
74-83-9	Bromomethane	ND		50	33.8	68	50	44.9	90	28* [a]	53-142/14
78-93-3	2-Butanone (MEK)	ND		200	217	109	200	215	108	1	54-142/15
104-51-8	n-Butylbenzene	ND		50	52.0	104	50	53.0	106	2	73-133/12
135-98-8	sec-Butylbenzene	ND		50	50.8	102	50	52.2	104	3	76-132/12
98-06-6	tert-Butylbenzene	ND		50	48.6	97	50	49.8	100	2	76-131/12
75-15-0	Carbon disulfide	ND		50	51.8	104	50	53.6	107	3	59-145/17
56-23-5	Carbon tetrachloride	ND		50	51.5	103	50	53.9	108	5	70-143/12
108-90-7	Chlorobenzene	ND		50	49.2	98	50	51.0	102	4	78-123/10
75-00-3	Chloroethane	ND		50	51.3	103	50	52.1	104	2	57-141/14
67-66-3	Chloroform	ND		50	49.7	99	50	50.6	101	2	76-123/11
74-87-3	Chloromethane	ND		50	46.4	93	50	47.6	95	3	43-141/16
95-49-8	o-Chlorotoluene	ND		50	48.6	97	50	50.0	100	3	78-124/11
106-43-4	p-Chlorotoluene	ND		50	48.2	96	50	49.6	99	3	77-122/11
108-20-3	Di-Isopropyl ether	ND		50	55.7	111	50	56.9	114	2	68-130/11
96-12-8	1,2-Dibromo-3-chloropropane	ND		50	49.3	99	50	47.4	95	4	66-130/13
124-48-1	Dibromochloromethane	ND		50	55.0	110	50	56.8	114	3	76-125/11
106-93-4	1,2-Dibromoethane	ND		50	54.7	109	50	55.3	111	1	78-119/11
95-50-1	1,2-Dichlorobenzene	ND		50	47.9	96	50	49.0	98	2	77-123/11
541-73-1	1,3-Dichlorobenzene	ND		50	48.2	96	50	49.6	99	3	76-122/11
106-46-7	1,4-Dichlorobenzene	ND		50	48.3	97	50	49.6	99	3	76-122/11
75-71-8	Dichlorodifluoromethane	ND		50	54.5	109	50	52.7	105	3	31-159/16
75-34-3	1,1-Dichloroethane	ND		50	53.9	108	50	55.7	111	3	73-126/11
107-06-2	1,2-Dichloroethane	ND		50	47.0	94	50	48.2	96	3	72-131/11
75-35-4	1,1-Dichloroethene	0.84		50	54.7	108	50	56.0	110	2	63-136/14
156-59-2	cis-1,2-Dichloroethene	3.1		50	55.2	104	50	56.6	107	3	60-136/11
156-60-5	trans-1,2-Dichloroethene	ND		50	51.4	103	50	52.7	105	2	70-126/11
78-87-5	1,2-Dichloropropane	ND		50	55.5	111	50	57.4	115	3	78-124/10
142-28-9	1,3-Dichloropropane	ND		50	51.9	104	50	52.9	106	2	78-118/11
594-20-7	2,2-Dichloropropane	ND		50	48.8	98	50	50.7	101	4	59-141/14
563-58-6	1,1-Dichloropropene	ND		50	53.2	106	50	55.0	110	3	75-130/11

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86512-8MS	3D146937.D	1	04/23/19	PR	n/a	n/a	V3D6281
JC86512-8MSD	3D146938.D	1	04/23/19	PR	n/a	n/a	V3D6281
JC86512-8	3D146935.D	1	04/23/19	PR	n/a	n/a	V3D6281
JC86512-8	3D146936.D	10	04/23/19	PR	n/a	n/a	V3D6281

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86512-1, JC86512-2, JC86512-3, JC86512-4, JC86512-5, JC86512-6, JC86512-7, JC86512-8, JC86512-9, JC86512-10, JC86512-11, JC86512-12

CAS No.	Compound	JC86512-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		50	53.2	106	50	54.7	109	3	79-123/11
10061-02-6	trans-1,3-Dichloropropene	ND		50	49.6	99	50	50.9	102	3	77-123/11
123-91-1	1,4-Dioxane	ND		1250	1250	100	1250	1270	102	2	49-146/26
60-29-7	Ethyl Ether	ND		50	55.8	112	50	56.0	112	0	72-127/12
100-41-4	Ethylbenzene	ND		50	51.0	102	50	52.6	105	3	51-140/20
87-68-3	Hexachlorobutadiene	ND		50	48.8	98	50	49.9	100	2	64-141/14
591-78-6	2-Hexanone	ND		200	220	110	200	216	108	2	56-139/14
98-82-8	Isopropylbenzene	ND		50	50.6	101	50	52.5	105	4	75-129/11
99-87-6	p-Isopropyltoluene	ND		50	49.9	100	50	50.6	101	1	76-131/12
1634-04-4	Methyl Tert Butyl Ether	ND		50	52.3	105	50	52.9	106	1	72-123/11
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		200	225	113	200	222	111	1	66-136/13
74-95-3	Methylene bromide	ND		50	52.0	104	50	52.8	106	2	81-121/11
75-09-2	Methylene chloride	ND		50	50.6	101	50	51.4	103	2	73-125/13
91-20-3	Naphthalene	ND		50	46.2	92	50	46.0	92	0	62-141/13
103-65-1	n-Propylbenzene	ND		50	50.7	101	50	51.8	104	2	68-133/11
100-42-5	Styrene	ND		50	50.4	101	50	52.6	105	4	75-129/11
994-05-8	tert-Amyl Methyl Ether	ND		50	49.9	100	50	50.7	101	2	75-127/11
637-92-3	tert-Butyl Ethyl Ether	ND		50	52.8	106	50	54.2	108	3	74-130/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	50.8	102	50	52.9	106	4	77-124/11
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	52.2	104	50	51.8	104	1	71-122/11
127-18-4	Tetrachloroethene	439	c	50	572	266*	b 50	571	264*	b 0	61-139/11
109-99-9	Tetrahydrofuran	ND		50	51.9	104	50	50.1	100	4	54-129/14
108-88-3	Toluene	ND		50	50.5	101	50	52.7	105	4	60-135/10
87-61-6	1,2,3-Trichlorobenzene	ND		50	48.0	96	50	48.2	96	0	70-138/13
120-82-1	1,2,4-Trichlorobenzene	ND		50	49.1	98	50	49.5	99	1	72-137/13
71-55-6	1,1,1-Trichloroethane	14.8		50	64.9	100	50	67.5	105	4	74-138/12
79-00-5	1,1,2-Trichloroethane	ND		50	52.5	105	50	53.2	106	1	78-121/11
79-01-6	Trichloroethene	16.7		50	68.1	103	50	69.8	106	2	62-141/10
75-69-4	Trichlorofluoromethane	ND		50	53.1	106	50	52.8	106	1	57-149/14
96-18-4	1,2,3-Trichloropropane	ND		50	48.1	96	50	47.5	95	1	74-122/11
95-63-6	1,2,4-Trimethylbenzene	ND		50	49.7	99	50	50.4	101	1	54-143/10
108-67-8	1,3,5-Trimethylbenzene	ND		50	49.1	98	50	50.3	101	2	67-133/11
75-01-4	Vinyl chloride	ND		50	55.4	111	50	55.1	110	1	43-146/15
	m,p-Xylene	ND		100	100	100	100	103	103	3	50-144/20
95-47-6	o-Xylene	ND		50	49.4	99	50	51.2	102	4	63-134/10
1330-20-7	Xylene (total)	ND		150	149	99	150	155	103	4	56-139/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86512-8MS	3D146937.D	1	04/23/19	PR	n/a	n/a	V3D6281
JC86512-8MSD	3D146938.D	1	04/23/19	PR	n/a	n/a	V3D6281
JC86512-8	3D146935.D	1	04/23/19	PR	n/a	n/a	V3D6281
JC86512-8	3D146936.D	10	04/23/19	PR	n/a	n/a	V3D6281

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC86512-1, JC86512-2, JC86512-3, JC86512-4, JC86512-5, JC86512-6, JC86512-7, JC86512-8, JC86512-9, JC86512-10, JC86512-11, JC86512-12

CAS No.	Surrogate Recoveries	MS	MSD	JC86512-8	JC86512-8	Limits
1868-53-7	Dibromofluoromethane	102%	101%	101%	99%	80-120%
17060-07-0	1,2-Dichloroethane-D4	95%	92%	96%	95%	81-124%
2037-26-5	Toluene-D8	100%	100%	100%	100%	80-120%
460-00-4	4-Bromofluorobenzene	100%	98%	97%	95%	80-120%

(a) Outside control limits due to matrix interference.
(b) Outside control limits due to high level in sample relative to spike amount.
(c) Result is from Run #2.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6212-BFB
Lab File ID: 3D145269.D
Instrument ID: GCMS3D
Injection Date: 03/07/19
Injection Time: 17:57

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	16616	17.6		Pass
75	30.0 - 60.0% of mass 95	44517	47.2		Pass
95	Base peak, 100% relative abundance	94402	100.0		Pass
96	5.0 - 9.0% of mass 95	6251	6.62		Pass
173	Less than 2.0% of mass 174	981	1.04	(1.17) [a]	Pass
174	50.0 - 120.0% of mass 95	83682	88.6		Pass
175	5.0 - 9.0% of mass 174	6242	6.61	(7.46) [a]	Pass
176	95.0 - 101.0% of mass 174	80954	85.8	(96.7) [a]	Pass
177	5.0 - 9.0% of mass 176	5431	5.75	(6.71) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D6212-IC6212	3D145270.D	03/07/19	18:37	00:40	Initial cal 0.2
V3D6212-IC6212	3D145271.D	03/07/19	19:02	01:05	Initial cal 0.5
V3D6212-IC6212	3D145272.D	03/07/19	19:27	01:30	Initial cal 1
V3D6212-IC6212	3D145273.D	03/07/19	19:52	01:55	Initial cal 2
V3D6212-IC6212	3D145274.D	03/07/19	20:17	02:20	Initial cal 4
V3D6212-IC6212	3D145275.D	03/07/19	20:43	02:46	Initial cal 8
V3D6212-IC6212	3D145276.D	03/07/19	21:08	03:11	Initial cal 20
V3D6212-ICC6212	3D145277.D	03/07/19	21:33	03:36	Initial cal 50
V3D6212-IC6212	3D145278.D	03/07/19	21:58	04:01	Initial cal 100
V3D6212-IC6212	3D145279.D	03/07/19	22:24	04:27	Initial cal 200
V3D6212-ICV6212	3D145282.D	03/07/19	23:39	05:42	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6281-BFB
Lab File ID: 3D146918.D
Instrument ID: GCMS3D
Injection Date: 04/23/19
Injection Time: 06:37

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	16123	17.6		Pass
75	30.0 - 60.0% of mass 95	42949	46.9		Pass
95	Base peak, 100% relative abundance	91515	100.0		Pass
96	5.0 - 9.0% of mass 95	5910	6.46		Pass
173	Less than 2.0% of mass 174	639	0.70	(0.76) [a]	Pass
174	50.0 - 120.0% of mass 95	84056	91.8		Pass
175	5.0 - 9.0% of mass 174	6424	7.02	(7.64) [a]	Pass
176	95.0 - 101.0% of mass 174	83080	90.8	(98.8) [a]	Pass
177	5.0 - 9.0% of mass 176	5509	6.02	(6.63) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D6281-CC6212	3D146918.D	04/23/19	06:37	00:00	Continuing cal 20
V3D6281-BS	3D146920.D	04/23/19	07:32	00:55	Blank Spike
V3D6281-BSD	3D146921.D	04/23/19	07:57	01:20	Blank Spike Duplicate
V3D6281-MB	3D146923.D	04/23/19	08:53	02:16	Method Blank
JC86512-2	3D146924.D	04/23/19	09:25	02:48	045163-MW118T
JC86512-3	3D146925.D	04/23/19	09:50	03:13	045163-MW119S
JC86512-4	3D146926.D	04/23/19	10:16	03:39	045163-MW119T
JC86512-5	3D146927.D	04/23/19	10:41	04:04	045163-MW120S
JC86512-6	3D146928.D	04/23/19	11:06	04:29	045163-MW120D
JC86512-7	3D146929.D	04/23/19	11:31	04:54	045163-MW202
JC86512-9	3D146930.D	04/23/19	11:56	05:19	045163-GEO-1
JC86512-10	3D146931.D	04/23/19	12:21	05:44	045163-GEO-2
JC86512-12	3D146932.D	04/23/19	12:46	06:09	045163-MW901
JC86512-1	3D146933.D	04/23/19	13:11	06:34	045163-MW116
JC86512-11	3D146934.D	04/23/19	13:36	06:59	045163-MW900
JC86512-8	3D146935.D	04/23/19	14:02	07:25	045163-SHMW2
JC86512-8	3D146936.D	04/23/19	14:27	07:50	045163-SHMW2
JC86512-8MS	3D146937.D	04/23/19	14:52	08:15	Matrix Spike
JC86512-8MSD	3D146938.D	04/23/19	15:17	08:40	Matrix Spike Duplicate
JC86512-11	3D146939.D	04/23/19	15:42	09:05	045163-MW900
ZZZZZZ	3D146940.D	04/23/19	16:07	09:30	(unrelated sample)
ZZZZZZ	3D146941.D	04/23/19	16:32	09:55	(unrelated sample)
ZZZZZZ	3D146942.D	04/23/19	16:57	10:20	(unrelated sample)
ZZZZZZ	3D146943.D	04/23/19	17:22	10:45	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample:	V3D6281-BFB	**Injection Date:**	04/23/19
Lab File ID:	3D146918.D	**Injection Time:**	06:37
Instrument ID:	GCMS3D		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	3D146944.D	04/23/19	17:48	11:11	(unrelated sample)
ZZZZZZ	3D146945.D	04/23/19	18:13	11:36	(unrelated sample)

Internal Standard Area Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Check Std:	V3D6281-CC6212	**Injection Date:**	04/23/19
Lab File ID:	3D146918.D	**Injection Time:**	06:37
Instrument ID:	GCMS3D	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	203354	2.98	303203	4.19	419030	4.75	364294	7.14	178767	9.34
Upper Limit [a]	406708	3.48	606406	4.69	838060	5.25	728588	7.64	357534	9.84
Lower Limit [b]	101677	2.48	151602	3.69	209515	4.25	182147	6.64	89384	8.84

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V3D6281-BS	201206	2.99	296899	4.19	415105	4.75	360530	7.14	171591	9.34
V3D6281-BSD	202011	2.99	295004	4.19	409439	4.75	357448	7.14	170333	9.34
V3D6281-MB	196964	2.98	292226	4.19	398470	4.75	351528	7.14	170067	9.34
JC86512-2	186292	2.98	300567	4.19	410681	4.75	357380	7.14	170569	9.34
JC86512-3	192810	2.98	303282	4.19	421398	4.75	370064	7.14	178303	9.34
JC86512-4	198968	2.98	307148	4.19	422773	4.75	367755	7.14	176342	9.34
JC86512-5	174309	2.98	289681	4.19	396682	4.75	346468	7.14	166345	9.34
JC86512-6	188885	2.98	295514	4.19	412102	4.75	360758	7.14	173832	9.34
JC86512-7	195871	2.98	294689	4.19	407521	4.75	353435	7.14	171458	9.34
JC86512-9	189827	2.98	293850	4.19	406059	4.75	351873	7.14	170224	9.34
JC86512-10	193049	2.98	295561	4.19	408600	4.75	355813	7.14	169459	9.34
JC86512-12	185009	2.98	295561	4.19	412957	4.75	355169	7.14	171194	9.34
JC86512-1	206406	2.98	295926	4.19	410648	4.75	360749	7.14	174819	9.34
JC86512-11	210029	2.98	296899	4.19	410872	4.75	356059	7.14	172045	9.34
JC86512-8	198782	2.99	293864	4.19	414238	4.75	361379	7.14	173643	9.34
JC86512-8	192244	2.98	291100	4.19	402437	4.75	354625	7.14	171587	9.34
JC86512-8MS	195840	2.99	285793	4.19	398715	4.75	349318	7.14	164293	9.34
JC86512-8MSD	185325	2.99	285672	4.19	398991	4.75	349219	7.14	167580	9.34
JC86512-11	188488	2.99	284402	4.19	391297	4.75	345058	7.14	167800	9.34
ZZZZZZ	192488	2.98	292082	4.19	402411	4.75	353747	7.14	169719	9.34
ZZZZZZ	190764	2.98	294050	4.19	403846	4.75	353134	7.14	170222	9.34
ZZZZZZ	202015	2.98	296862	4.19	412937	4.75	362488	7.14	174217	9.34
ZZZZZZ	186803	2.98	291273	4.19	401731	4.75	355364	7.14	168129	9.34
ZZZZZZ	197852	2.99	293044	4.19	405277	4.75	355269	7.14	172892	9.34
ZZZZZZ	180079	2.98	294220	4.19	414106	4.75	354856	7.14	169434	9.34

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Surrogate Recovery Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC86512-1	3D146933.D	100	98	100	95
JC86512-2	3D146924.D	98	95	101	97
JC86512-3	3D146925.D	100	96	100	96
JC86512-4	3D146926.D	98	94	101	97
JC86512-5	3D146927.D	98	95	101	96
JC86512-6	3D146928.D	100	98	100	96
JC86512-7	3D146929.D	98	96	101	96
JC86512-8	3D146935.D	101	96	100	97
JC86512-8	3D146936.D	99	95	100	95
JC86512-9	3D146930.D	99	96	101	96
JC86512-10	3D146931.D	98	95	100	98
JC86512-11	3D146934.D	99	97	101	96
JC86512-11	3D146939.D	99	97	100	97
JC86512-12	3D146932.D	99	95	101	97
JC86512-8MS	3D146937.D	102	95	100	100
JC86512-8MSD	3D146938.D	101	92	100	98
V3D6281-BS	3D146920.D	100	94	101	97
V3D6281-BSD	3D146921.D	99	93	100	97
V3D6281-MB	3D146923.D	98	97	100	97

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	80-120%
S2 = 1,2-Dichloroethane-D4	81-124%
S3 = Toluene-D8	80-120%
S4 = 4-Bromofluorobenzene	80-120%

Initial Calibration Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6212-ICC6212
Lab FileID: 3D145277.D

Response Factor Report MS3D

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
Last Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Calibration Files
1 =3D145272.D 0.5 =3D145271.D 100 =3D145278.D 50 =3D145277.D
20 =3D145276.D 200 =3D145279.D 4 =3D145274.D 2 =3D145273.D
8 =3D145275.D 0.2 =3D145270.D = =

Compound	1	0.5	100	50	20	200	4	2	8	0.2	Avg	%RSD
1) tert butyl alcohol-d9	----------ISTD----------											
2) tertiary butyl alcohol	1.429	1.270	1.229	1.244	1.253	1.258	1.206	1.308	1.247	1.499	1.294	7.32
3) ethanol	0.144	0.116	0.109	0.114	0.117	0.103	0.114	0.124	0.119	0.141	0.120	10.95
4) 1,4-dioxane	0.131	0.107	0.113	0.115	0.120	0.115	0.110	0.119	0.119		0.117	5.89
5) I pentafluorobenzene	----------ISTD----------											
6) chlorodifluoromethane	0.502	0.444	0.459	0.456	0.453	0.459	0.426	0.474	0.445	0.428	0.455	4.86
7) dichlorodifluoromethane	0.500	0.531	0.523	0.533	0.530	0.514	0.506	0.491	0.509	0.401	0.504	7.67
8) chloromethane	0.485	0.501	0.462	0.468	0.462	0.474	0.461	0.449	0.456		0.469	3.36
9) vinyl chloride	0.471	0.463	0.493	0.499	0.494	0.497	0.456	0.456	0.483	0.437	0.475	4.52
10) 1,3-butadiene	0.444	0.359	0.385	0.385	0.389	0.381	0.369	0.402	0.390	0.423	0.393	6.37
11) bromomethane	0.191		0.178	0.180	0.185	0.147	0.170	0.184	0.185		0.178	7.65
12) chloroethane	0.319	0.357	0.289	0.293	0.291	0.272	0.289	0.280	0.281	0.266	0.294	9.04
13) trichlorofluoromethane	0.577	0.602	0.601	0.618	0.607	0.595	0.589	0.556	0.597	0.628	0.597	3.37
14) vinyl bromide	0.282	0.264	0.286	0.288	0.282	0.291	0.270	0.254	0.273	0.281	0.277	4.18
15) ethyl ether	0.242	0.237	0.224	0.225	0.221	0.225	0.203	0.237	0.217	0.181	0.221	8.20
16) acrolein	0.092	0.090	0.089	0.090	0.085	0.089	0.091	0.083	0.084	0.081	0.087	4.39
17) freon 113	0.356	0.314	0.324	0.324	0.329	0.326	0.320	0.333	0.319		0.327	3.74
18) 1,1-dichloroethene	0.385	0.290	0.349	0.345	0.348	0.352	0.316	0.330	0.337	0.265	0.332	10.31
19) acetone	0.057		0.050	0.049	0.049	0.050	0.048	0.048	0.049		0.050	5.76
20) acetonitrile	0.092	0.080	0.074	0.073	0.073	0.073	0.071	0.076	0.073		0.076	8.41
21) iodomethane *This compound fails Initial Calibration criteria*			0.252	0.195	0.102	0.280	0.038	0.037	0.057		0.137	75.39
22) carbon disulfide	1.058	0.950	0.889	0.872	0.872	0.911	0.847	0.887	0.854		0.904	7.23
23) methylene chloride												

```
      0.418 0.367 0.351 0.348 0.348 0.352 0.355 0.375 0.353 0.455  0.372    9.69
24)  methyl acetate
      0.491 0.419 0.402 0.392 0.399 0.394 0.398 0.418 0.392 0.427  0.413    7.25
25)  methyl tert butyl ether
      1.247 1.053 1.117 1.103 1.113 1.116 1.073 1.106 1.117 1.050  1.109    4.95
26)  trans-1,2-dichloroethene
      0.408 0.376 0.365 0.365 0.365 0.371 0.347 0.362 0.361 0.408  0.373    5.40
27)  di-isopropyl ether
      1.430 1.212 1.239 1.250 1.242 1.241 1.201 1.255 1.236 1.181  1.249    5.45
28)  2-butanone
      0.077 0.062 0.070 0.069 0.068 0.069 0.063 0.067 0.069 0.060  0.068    7.02
29)  1,1-dichloroethane
      0.701 0.607 0.625 0.627 0.631 0.627 0.610 0.634 0.630 0.575  0.627    5.04
30)  chloroprene
      0.683 0.524 0.610 0.611 0.607 0.609 0.581 0.592 0.612 0.551  0.598    7.05
31)  acrylonitrile
      0.206 0.161 0.196 0.194 0.191 0.195 0.193 0.197 0.192        0.192    6.42
32)  hexane
      0.352 0.309 0.314 0.308 0.307 0.307 0.301 0.320 0.309        0.314    4.84
33)  vinyl acetate
      0.112 0.091 0.112 0.110 0.111 0.114 0.100 0.104 0.106        0.107    6.78
34)  ethyl tert-butyl ether
      1.300 1.151 1.190 1.192 1.188 1.201 1.160 1.187 1.184 1.114  1.187    4.01
35)  ethyl acetate
      0.090       0.082 0.082 0.080 0.082 0.087 0.080 0.087        0.084    4.50
36)  2,2-dichloropropane
      0.637 0.529 0.527 0.531 0.543 0.527 0.507 0.549 0.531 0.523  0.540    6.64
37)  cis-1,2-dichloroethene
      0.433 0.362 0.397 0.394 0.399 0.401 0.388 0.386 0.394 0.457  0.401    6.59
38)  methyl acrylate
      0.078       0.082 0.081 0.079 0.082 0.072 0.080 0.076        0.079    4.30
39)  propionitrile
      0.097 0.081 0.084 0.083 0.083 0.083 0.083 0.082 0.083 0.074  0.083    6.88
40)  bromochloromethane
      0.211 0.165 0.174 0.179 0.183 0.171 0.178 0.190 0.177 0.157  0.178    8.17
41)  tetrahydrofuran
      0.094       0.075 0.074 0.075 0.073 0.070 0.065 0.074        0.075   11.10
42)  chloroform
      0.443 0.402 0.391 0.390 0.389 0.393 0.386 0.395 0.397 0.505  0.409    9.15
43)  t-butyl formate
      0.350 0.288 0.370 0.359 0.355 0.374 0.320 0.316 0.333        0.341    8.27
44)  dibromofluoromethane (s)
      0.357 0.354 0.360 0.359 0.356 0.354 0.354 0.356 0.356 0.346  0.355    1.04
45)  methacrylonitrile
      0.212 0.160 0.208 0.205 0.200 0.207 0.193 0.206 0.202        0.199    7.86
46)  1,1,1-trichloroethane
      0.618 0.562 0.565 0.561 0.562 0.572 0.528 0.578 0.548 0.531  0.563    4.51
47)  cyclohexane
      0.604 0.640 0.579 0.589 0.586 0.587 0.579 0.575 0.568 0.663  0.597    5.15
48)  1,1-dichloropropene
      0.612 0.498 0.522 0.514 0.515 0.526 0.479 0.522 0.517 0.483  0.519    7.05
49)  iso-butyl alcohol
      0.039 0.034 0.033 0.032 0.031 0.034 0.032 0.032 0.031        0.033    7.55
50)  carbon tetrachloride
      0.475 0.440 0.485 0.472 0.468 0.492 0.442 0.459 0.468 0.394  0.460    6.16
51)  tert amyl alcohol
      0.035 0.028 0.028 0.028 0.028 0.027 0.028 0.026 0.028        0.028    9.09

52) I   1,4-difluorobenzene   ----------------ISTD---------------------
53)  1,2-dichloroethane-d4 (s)
```

```
      0.284 0.286 0.276 0.276 0.273 0.268 0.286 0.289 0.285 0.285  0.281    2.45
54)  n-butyl alcohol
      0.018 0.015 0.017 0.016 0.016 0.017 0.015 0.015 0.016        0.016    6.68
55)  2,2,4-trimethylpentane
      0.789 0.723 0.694 0.687 0.692 0.697 0.685 0.730 0.709 0.685  0.709    4.54
56)  benzene
      1.194 1.110 1.053 1.050 1.069 1.058 1.033 1.098 1.061 1.042  1.077    4.42
57)  tert-amyl methyl ether
      0.229 0.212 0.207 0.207 0.210 0.211 0.202 0.211 0.211 0.194  0.209    4.24
58)  heptane
      0.208 0.187 0.183 0.181 0.181 0.182 0.173 0.192 0.183 0.161  0.183    6.55
59)  isopropyl acetate
      0.097       0.090 0.089 0.090 0.090 0.084 0.085 0.086        0.089    4.54
60)  1,2-dichloroethane
      0.454       0.337 0.343 0.345 0.339 0.354 0.368 0.356        0.362   10.70
61)  trichloroethene
      0.310 0.265 0.289 0.286 0.288 0.292 0.271 0.298 0.285 0.313  0.290    5.19
62)  ethyl acrylate
      0.472 0.423 0.454 0.449 0.452 0.456 0.438 0.445 0.441 0.391  0.442    4.98
63)  2-nitropropane
      0.088 0.086 0.085 0.078 0.074 0.088 0.077 0.067 0.072        0.079    9.37
64)  2-chloroethyl vinyl ether
      0.171 0.146 0.199 0.195 0.191 0.200 0.170 0.172 0.182        0.181    9.78
65)  methyl methacrylate
      0.398 0.373 0.338 0.336 0.332 0.337 0.319 0.330 0.330 0.422  0.352    9.76
66)  1,2-dichloropropane
      0.291 0.248 0.259 0.259 0.258 0.261 0.251 0.262 0.256        0.261    4.70
67)  dibromomethane
      0.174 0.149 0.155 0.154 0.154 0.156 0.155 0.154 0.152 0.126  0.153    7.67
68)  methylcyclohexane
                  0.445 0.441 0.440 0.444 0.455 0.514 0.452        0.456    5.75
69)  bromodichloromethane
      0.357 0.307 0.332 0.324 0.317 0.337 0.306 0.302 0.310 0.294  0.319    5.97
70)  epichlorohydrin
      0.045 0.038 0.046 0.045 0.045 0.044 0.041 0.042 0.043        0.043    5.70
71)  cis-1,3-dichloropropene
      0.436 0.365 0.424 0.418 0.415 0.431 0.392 0.422 0.407 0.475  0.419    6.83
72)  4-methyl-2-pentanone
      0.166 0.139 0.151 0.150 0.151 0.149 0.147 0.150 0.151 0.134  0.149    5.59
73)  3-methyl-1-butanol
      0.024 0.018 0.025 0.024 0.023 0.025 0.022 0.021 0.023        0.023    8.69

74) I   chlorobenzene-d5      ----------------ISTD---------------------
75)  toluene-d8 (s)
      1.263 1.272 1.260 1.264 1.277 1.265 1.262 1.277 1.283 1.277  1.270    0.65
76)  toluene
      0.873 0.796 0.786 0.787 0.791 0.802 0.798 0.813 0.800 0.862  0.811    3.84
77)  trans-1,3-dichloropropene
      0.483 0.436 0.452 0.451 0.443 0.468 0.420 0.426 0.436 0.519  0.453    6.57
78)  ethyl methacrylate
      0.519 0.437 0.490 0.491 0.489 0.498 0.455 0.450 0.484 0.436  0.475    5.93
79)  1,1,2-trichloroethane
      0.254 0.202 0.227 0.230 0.231 0.231 0.225 0.237 0.228        0.230    5.80
80)  tetrachloroethene
      0.318 0.269 0.280 0.283 0.284 0.286 0.269 0.277 0.283 0.291  0.284    4.88
81)  1,3-dichloropropane
      0.552 0.457 0.472 0.480 0.482 0.488 0.457 0.492 0.479 0.435  0.479    6.45
82)  2-hexanone
      0.202 0.161 0.183 0.185 0.184 0.183 0.178 0.177 0.183 0.164  0.180    6.37
83)  butyl acetate
```

```
      0.308 0.249 0.287 0.294 0.287 0.293 0.281 0.284 0.286 0.274  0.284    5.41
 84)  dibromochloromethane
      0.296 0.251 0.296 0.288 0.272 0.308 0.254 0.257 0.264 0.232  0.272    9.00
 85)  1,2-dibromoethane
      0.404 0.324 0.358 0.362 0.359 0.366 0.346 0.341 0.356 0.426  0.364    8.17
 86)  n-butyl ether
      1.455 1.157 1.296 1.303 1.298 1.323 1.236 1.306 1.325 1.267  1.297    5.79
 87)  chlorobenzene
      0.968 0.870 0.826 0.842 0.834 0.854 0.827 0.879 0.843 0.891  0.863    4.96
 88)  1,1,1,2-tetrachloroethane
      0.298 0.274 0.293 0.291 0.284 0.302 0.251 0.277 0.274        0.283    5.60
 89)  ethylbenzene
      1.680 1.400 1.453 1.478 1.485 1.482 1.425 1.510 1.484 1.449  1.484    5.11
 90)  m,p-xylene
      0.658 0.571 0.567 0.575 0.576 0.577 0.553 0.592 0.579 0.582  0.583    4.83
 91)  o-xylene
      0.645 0.555 0.541 0.551 0.552 0.552 0.545 0.539 0.555 0.582  0.562    5.64
 92)  styrene
      1.038 0.880 0.947 0.956 0.948 0.963 0.914 0.941 0.948 0.888  0.942    4.69
 93)  bromoform
      0.197       0.226 0.215 0.201 0.238 0.169 0.181 0.187        0.202   11.60
 94)  butyl acrylate
      0.709 0.605 0.713 0.718 0.704 0.726 0.647 0.625 0.680 0.557  0.668    8.59
 95)  n-amyl acetate
      0.325 0.242 0.297 0.299 0.296 0.298 0.275 0.283 0.288        0.289    7.79
 96)  isopropylbenzene
      1.575 1.412 1.407 1.420 1.419 1.422 1.373 1.409 1.430 1.311  1.418    4.60
 97)  cis-1,4-dichloro-2-butene
      0.142       0.169 0.167 0.153 0.174 0.134 0.137 0.140        0.152   10.58

 98) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
 99)  4-bromofluorobenzene (s)
      0.938 0.948 0.951 0.945 0.946 0.953 0.943 0.936 0.940 0.940  0.944    0.61
100)  bromobenzene
      0.924 0.814 0.777 0.783 0.786 0.802 0.772 0.780 0.767 0.728  0.793    6.47
101)  1,1,2,2-tetrachloroethane
      0.959 0.791 0.886 0.894 0.877 0.908 0.841 0.870 0.866 0.782  0.867    6.07
102)  trans-1,4-dichloro-2-butene
      0.292       0.267 0.261 0.257 0.273 0.242 0.239 0.239        0.259    7.31
103)  1,2,3-trichloropropane
      0.338 0.290 0.295 0.293 0.296 0.302 0.301 0.286 0.302        0.300    5.06
104)  n-propylbenzene
      3.702 3.414 3.457 3.406 3.438 3.514 3.230 3.312 3.300 3.388  3.416    3.82
105)  2-chlorotoluene
      0.824 0.688 0.717 0.711 0.723 0.738 0.682 0.691 0.693 0.648  0.711    6.59
106)  4-chlorotoluene
      0.801 0.741 0.716 0.711 0.714 0.736 0.669 0.714 0.693 0.627  0.712    6.42
107)  1,3,5-trimethylbenzene
      2.698 2.289 2.416 2.405 2.434 2.464 2.289 2.376 2.375 2.353  2.410    4.82
108)  tert-butylbenzene
      0.600 0.498 0.537 0.526 0.541 0.549 0.521 0.537 0.525        0.537    5.16
109)  1,2,4-trimethylbenzene
      2.683 2.294 2.399 2.384 2.377 2.457 2.233 2.316 2.377 2.250  2.377    5.40
110)  sec-butylbenzene
      3.090 2.740 2.904 2.853 2.867 2.914 2.663 2.768 2.822 2.523  2.814    5.48
111)  1,3-dichlorobenzene
      1.539 1.339 1.374 1.371 1.388 1.413 1.314 1.385 1.365 1.529  1.402    5.33
112)  p-isopropyltoluene
      2.721 2.274 2.473 2.455 2.440 2.517 2.310 2.391 2.424 2.519  2.453    5.05
113)  1,4-dichlorobenzene
```

```
       1.592 1.401 1.406 1.393 1.402 1.429 1.366 1.431 1.383        1.423    4.69
114)  benzyl chloride
       1.777 1.487 1.780 1.776 1.701 1.863 1.496 1.531 1.561 1.617  1.659    8.27
115)  1,2-dichlorobenzene
       1.433 1.349 1.300 1.298 1.336 1.343 1.255 1.364 1.291 1.424  1.339    4.28
116)  n-butylbenzene
       1.178 0.955 1.147 1.118 1.107 1.164 1.044 1.041 1.079 1.007  1.084    6.66
117)  1,2-dibromo-3-chloropropane
       0.175       0.194 0.190 0.177 0.208 0.163 0.156 0.164        0.178   10.01
118)  1,3,5-trichlorobenzene
       1.031 0.897 0.955 0.944 0.929 0.988 0.871 0.882 0.917 1.049  0.946    6.41
119)  2-ethylhexyl acrylate
                   0.506 0.471 0.397 0.547             0.366        0.457   16.44
120)  1,2,4-trichlorobenzene
       0.815 0.757 0.877 0.840 0.828 0.898 0.771 0.758 0.789 0.862  0.819    6.14
121)  hexachlorobutadiene
       0.334 0.314 0.336 0.330 0.320 0.355 0.297 0.296 0.323        0.323    5.87
122)  naphthalene
       2.702 2.396 2.704 2.626 2.554 2.789 2.331 2.351 2.393 3.160  2.601    9.87
123)  1,2,3-trichlorobenzene
       0.831 0.688 0.808 0.788 0.756 0.825 0.705 0.695 0.749 0.660  0.750    8.20
124)  hexachloroethane
       0.331       0.390 0.368 0.336 0.419 0.297 0.313 0.307        0.345   12.58
125)  2-methylnaphthalene
                   1.248 1.156 0.998 1.279 0.825       0.905        1.069   17.51
126)  Bis(chloromethyl)ether
                                                                    0.000#  -1.00
127)  Ethylenimine
                                                                    0.000#  -1.00
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M3D6212.M         Fri Mar 08 17:12:13 2019   3D
```

Initial Calibration Verification

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6212-ICV6212
Lab FileID: 3D145282.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V3D6212\3D145282.D Vial: 14
Acq On : 7 Mar 2019 11:39 pm Operator: juntaep
Sample : icv6212-50 Inst : MS3D
Misc : MS32815,V3D6212,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
Last Update : Fri Mar 08 17:11:15 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1		tert butyl alcohol-d9	1.000	1.000	0.0	96	0.00	2.99
2	M	tertiary butyl alcohol	1.294	1.301	-0.5	100	0.00	3.04
3		ethanol	0.120	0.121	-0.8	102	0.00	2.42
4	M	1,4-dioxane	0.117	0.125	-6.8	105	0.00	5.18
5	I	pentafluorobenzene	1.000	1.000	0.0	96	0.00	4.19
6	M	chlorodifluoromethane	0.455	0.429	5.7	90	0.00	1.61
7	M	dichlorodifluoromethane	0.504	0.520	-3.2	93	0.00	1.60
8	M	chloromethane	0.469	0.512	-9.2	105	0.00	1.75
9	M	vinyl chloride	0.475	0.479	-0.8	92	0.00	1.83
10		1,3-butadiene	0.393	0.401	-2.0	100	0.00	1.86
11	M	bromomethane	0.178	0.213	-19.7	113	0.00	2.07
12	M	chloroethane	0.294	0.263	10.5	86	0.00	2.15
13	M	trichlorofluoromethane	0.597	0.580	2.8	90	0.00	2.33
14		vinyl bromide	0.277	0.285	-2.9	95	0.00	2.29
15	M	ethyl ether	0.221	0.231	-4.5	98	0.00	2.51
16	M	acrolein	0.087	0.104	-19.5	111	0.00	2.61
17		freon 113	0.327	0.329	-0.6	97	0.00	2.69
18	M	1,1-dichloroethene	0.332	0.310	6.6	86	0.00	2.69
19	M	acetone	0.050	0.052	-4.0	102	0.00	2.69
20	M	acetonitrile	0.076	0.075	1.3	98	0.00	2.88
21	M	iodomethane	0.137	0.158	-15.3	77	0.00	2.80
22	M	carbon disulfide	0.904	0.911	-0.8	100	0.00	2.86
23	M	methylene chloride	0.372	0.349	6.2	96	0.00	3.01
24	M	methyl acetate	0.413	0.401	2.9	98	0.00	2.90
25	M	methyl tert butyl ether	1.109	1.157	-4.3	101	0.00	3.18
26	M	trans-1,2-dichloroethene	0.373	0.349	6.4	92	0.00	3.19
27	M	di-isopropyl ether	1.249	1.212	3.0	93	0.00	3.48
28	M	2-butanone	0.068	0.073	-7.4	100	0.00	3.84
29	M	1,1-dichloroethane	0.627	0.620	1.1	95	0.00	3.49
30	M	chloroprene	0.598	0.613	-2.5	96	0.00	3.54
31	M	acrylonitrile	0.192	0.218	-13.5	108	0.00	3.15
32		hexane	0.314	0.254	19.1	79	0.00	3.38
33	M	vinyl acetate	0.107	0.106	0.9	93	0.00	3.46
34	M	ethyl tert-butyl ether	1.187	1.184	0.3	95	0.00	3.72
35	M	ethyl acetate	0.084	0.084	0.0	98	0.00	3.85
36	M	2,2-dichloropropane	0.540	0.504	6.7	91	0.00	3.88
37	M	cis-1,2-dichloroethene	0.401	0.407	-1.5	99	0.00	3.87
38		methyl acrylate	0.079	0.084	-6.3	99	0.00	3.89
39	M	propionitrile	0.083	0.088	-6.0	102	0.00	3.88
40	M	bromochloromethane	0.178	0.184	-3.4	98	0.00	4.04
41	M	tetrahydrofuran	0.075	0.079	-5.3	101	0.00	4.04

Initial Calibration Verification

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6212-ICV6212
Lab FileID: 3D145282.D

42	M	chloroform	0.409	0.392	4.2	96	0.00	4.09
43	M	t-butyl formate	0.341	0.330	3.2	88	0.00	4.11
44	S	dibromofluoromethane (s)	0.355	0.365	-2.8	97	0.00	4.20
45	M	methacrylonitrile	0.199	0.211	-6.0	99	0.00	3.99
46	M	1,1,1-trichloroethane	0.563	0.542	3.7	93	0.00	4.23
47		cyclohexane	0.597	0.543	9.0	88	0.00	4.29
48		1,1-dichloropropene	0.519	0.512	1.3	95	0.00	4.33
49		iso-butyl alcohol	0.033	0.035	-6.1	104	0.00	4.33
50		carbon tetrachloride	0.460	0.465	-1.1	94	0.00	4.35
51		tert amyl alcohol	0.028	0.030	-7.1	105	0.00	4.43
52	I	1,4-difluorobenzene	1.000	1.000	0.0	96	0.00	4.75
53	S	1,2-dichloroethane-d4 (s)	0.281	0.277	1.4	96	0.00	4.45
54	M	n-butyl alcohol	0.016	0.017	-6.3	102	0.00	4.81
55		2,2,4-trimethylpentane	0.709	0.650	8.3	91	0.00	4.55
56	M	benzene	1.077	1.062	1.4	97	0.00	4.48
57	M	tert-amyl methyl ether	0.209	0.205	1.9	95	0.00	4.54
58	M	heptane	0.183	0.189	-3.3	100	0.00	4.66
59	M	isopropyl acetate	0.089	0.089	0.0	95	0.00	4.45
60	M	1,2-dichloroethane	0.362	0.351	3.0	98	0.00	4.50
61	M	trichloroethene	0.290	0.290	0.0	97	0.00	4.95
62		ethyl acrylate	0.442	0.481	-8.8	103	0.00	4.96
63	M	2-nitropropane	0.079	0.087	-10.1	106	0.00	5.49
64	M	2-chloroethyl vinyl ether	0.181	0.212	-17.1	104	0.00	5.53
65	M	methyl methacrylate	0.352	0.354	-0.6	101	0.00	5.14
66	M	1,2-dichloropropane	0.261	0.264	-1.1	98	0.00	5.14
67	M	dibromomethane	0.153	0.162	-5.9	101	0.00	5.21
68	M	methylcyclohexane	0.456	0.418	8.3	91	0.00	5.14
69	M	bromodichloromethane	0.319	0.331	-3.8	98	0.00	5.33
70		epichlorohydrin	0.043	0.046	-7.0	97	0.00	5.58
71	M	cis-1,3-dichloropropene	0.419	0.433	-3.3	99	0.00	5.67
72	M	4-methyl-2-pentanone	0.149	0.160	-7.4	103	0.00	5.77
73	M	3-methyl-1-butanol	0.023	0.027	-17.4	105	0.00	5.79
74	I	chlorobenzene-d5	1.000	1.000	0.0	97	0.00	7.14
75	S	toluene-d8 (s)	1.270	1.256	1.1	96	0.00	5.90
76		toluene	0.811	0.809	0.2	100	0.00	5.96
77		trans-1,3-dichloropropene	0.453	0.448	1.1	96	0.00	6.12
78		ethyl methacrylate	0.475	0.490	-3.2	97	0.00	6.14
79		1,1,2-trichloroethane	0.230	0.239	-3.9	101	0.00	6.29
80	M	tetrachloroethene	0.284	0.284	0.0	97	0.00	6.39
81	M	1,3-dichloropropane	0.479	0.507	-5.8	102	0.00	6.44
82		2-hexanone	0.180	0.193	-7.2	102	0.00	6.46
83	M	butyl acetate	0.284	0.305	-7.4	100	0.00	6.54
84	M	dibromochloromethane	0.272	0.312	-14.7	105	0.00	6.63
85	M	1,2-dibromoethane	0.364	0.377	-3.6	101	0.00	6.74
86		n-butyl ether	1.297	1.353	-4.3	101	0.00	7.22
87	M	chlorobenzene	0.863	0.851	1.4	98	0.00	7.17
88	M	1,1,1,2-tetrachloroethane	0.283	0.307	-8.5	102	0.00	7.24
89	M	ethylbenzene	1.484	1.499	-1.0	98	0.00	7.25
90	M	m,p-xylene	0.583	0.585	-0.3	99	0.00	7.36
91	M	o-xylene	0.562	0.561	0.2	99	0.00	7.72
92	M	styrene	0.942	0.990	-5.1	100	0.00	7.74
93	M	bromoform	0.202	0.238	-17.8	107	0.00	7.91
94		butyl acrylate	0.668	0.753	-12.7	101	0.00	7.64
95		n-amyl acetate	0.289	0.291	-0.7	94	0.00	7.85
96		isopropylbenzene	1.418	1.451	-2.3	99	0.00	8.06
97		cis-1,4-dichloro-2-butene	0.152	0.167	-9.9	97	0.00	8.10
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	97	0.00	9.34

Initial Calibration Verification

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6212-ICV6212
Lab FileID: 3D145282.D

99	S	4-bromofluorobenzene (s)	0.944	0.943	0.1	97	0.00	8.22
100	M	bromobenzene	0.793	0.803	-1.3	100	0.00	8.37
101	M	1,1,2,2-tetrachloroethane	0.867	0.922	-6.3	100	0.00	8.34
102	M	trans-1,4-dichloro-2-bute	0.259	0.308	-18.9	115	0.00	8.38
103	M	1,2,3-trichloropropane	0.300	0.305	-1.7	101	0.00	8.39
104	M	n-propylbenzene	3.416	3.459	-1.3	99	0.00	8.45
105	M	2-chlorotoluene	0.711	0.720	-1.3	99	0.00	8.55
106	M	4-chlorotoluene	0.712	0.754	-5.9	103	0.00	8.66
107	M	1,3,5-trimethylbenzene	2.410	2.423	-0.5	98	0.00	8.62
108	M	tert-butylbenzene	0.537	0.593	-10.4	110	0.00	8.93
109	M	1,2,4-trimethylbenzene	2.377	2.499	-5.1	102	0.00	8.99
110	M	sec-butylbenzene	2.814	2.893	-2.8	99	0.00	9.14
111	M	1,3-dichlorobenzene	1.402	1.420	-1.3	101	0.00	9.27
112	M	p-isopropyltoluene	2.453	2.497	-1.8	99	0.00	9.29
113	M	1,4-dichlorobenzene	1.423	1.428	-0.4	100	0.00	9.36
114		benzyl chloride	1.659	1.400	15.6	77	0.00	9.47
115	M	1,2-dichlorobenzene	1.339	1.346	-0.5	101	0.00	9.72
116	M	n-butylbenzene	1.084	1.135	-4.7	99	0.00	9.69
117	M	1,2-dibromo-3-chloropropa	0.178	0.191	-7.3	97	0.00	10.48
118		1,3,5-trichlorobenzene	0.946	0.964	-1.9	99	0.00	10.68
119		2-ethylhexyl acrylate	0.457	0.570	-24.7	118	0.00	11.48
120	M	1,2,4-trichlorobenzene	0.819	0.869	-6.1	101	0.00	11.31
121	M	hexachlorobutadiene	0.323	0.329	-1.9	97	0.00	11.45
122	M	naphthalene	2.601	2.750	-5.7	102	0.00	11.57
123	M	1,2,3-trichlorobenzene	0.750	0.806	-7.5	100	0.00	11.79
124	m	hexachloroethane	0.345	0.384	-11.3	102	0.00	9.99
125		2-methylnaphthalene	1.069	1.186	-10.9	100	0.00	12.70
126		Bis(chloromethyl)ether		----------NA----------				
127		Ethylenimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D145277.D M3D6212.M Fri Mar 08 17:11:58 2019 3D

Continuing Calibration Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6281-CC6212
Lab FileID: 3D146918.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ke...d6281-rush\3d146918.d Vial: 2
Acq On : 23 Apr 2019 6:37 am Operator: payalr
Sample : CC6212-20 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
Last Update : Fri Mar 08 17:11:15 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1		tert butyl alcohol-d9	1.000	1.000	0.0	95	0.00	2.98
2	M	tertiary butyl alcohol	1.294	1.220	5.7	92	0.00	3.04
3		ethanol	0.120	0.132	-10.0	107	0.00	2.42
4	M	1,4-dioxane	0.117	0.119	-1.7	94	0.00	5.18
5	I	pentafluorobenzene	1.000	1.000	0.0	94	0.00	4.19
6	M	chlorodifluoromethane	0.455	0.441	3.1	91	0.00	1.61
7	M	dichlorodifluoromethane	0.504	0.493	2.2	87	0.00	1.60
8	M	chloromethane	0.469	0.414	11.7	84	0.00	1.75
9	M	vinyl chloride	0.475	0.466	1.9	89	0.00	1.83
10		1,3-butadiene	0.393	0.400	-1.8	97	0.00	1.86
11	M	bromomethane	0.178	0.110	38.2#	56	0.00	2.08
12	M	chloroethane	0.294	0.284	3.4	92	0.00	2.15
13	M	trichlorofluoromethane	0.597	0.554	7.2	86	0.00	2.33
14		vinyl bromide	0.277	0.238	14.1	79	0.00	2.29
15	M	ethyl ether	0.221	0.256	-15.8	109	0.00	2.51
16	M	acrolein	0.087	0.085	2.3	93	0.00	2.61
17		freon 113	0.327	0.289	11.6	83	0.00	2.69
18	M	1,1-dichloroethene	0.332	0.351	-5.7	95	0.00	2.69
19	M	acetone	0.050	0.055	-10.0	106	0.00	2.69
20	M	acetonitrile	0.076	0.085	-11.8	110	0.00	2.88
21	M	iodomethane	0.137	0.031	77.4#	29#	0.00	2.80
22	M	carbon disulfide	0.904	0.943	-4.3	102	0.00	2.86
23	M	methylene chloride	0.372	0.384	-3.2	104	0.00	3.01
24	M	methyl acetate	0.413	0.442	-7.0	104	0.00	2.90
25	M	methyl tert butyl ether	1.109	1.199	-8.1	101	0.00	3.18
26	M	trans-1,2-dichloroethene	0.373	0.385	-3.2	99	0.00	3.19
27	M	di-isopropyl ether	1.249	1.425	-14.1	108	0.00	3.48
28	M	2-butanone	0.068	0.075	-10.3	103	0.00	3.83
29	M	1,1-dichloroethane	0.627	0.690	-10.0	103	0.00	3.48
30	M	chloroprene	0.598	0.612	-2.3	95	0.00	3.54
31	M	acrylonitrile	0.192	0.219	-14.1	108	0.00	3.15
32		hexane	0.314	0.292	7.0	89	0.00	3.37
33	M	vinyl acetate	0.107	0.114	-6.5	96	0.00	3.46
34	M	ethyl tert-butyl ether	1.187	1.280	-7.8	101	0.00	3.72
35	M	ethyl acetate	0.084	0.090	-7.1	105	0.00	3.85
36	M	2,2-dichloropropane	0.540	0.548	-1.5	95	0.00	3.88
37	M	cis-1,2-dichloroethene	0.401	0.428	-6.7	101	0.00	3.87
38		methyl acrylate	0.079	0.082	-3.8	98	0.00	3.89
39	M	propionitrile	0.083	0.094	-13.3	107	0.00	3.88
40	M	bromochloromethane	0.178	0.200	-12.4	103	0.00	4.04
41	M	tetrahydrofuran	0.075	0.081	-8.0	101	0.00	4.04

Continuing Calibration Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: V3D6281-CC6212
Lab FileID: 3D146918.D

42	M	chloroform	0.409	0.413	-1.0	100	0.00	4.09
43	M	t-butyl formate	0.341	0.301	11.7	80	0.00	4.11
44	S	dibromofluoromethane (s)	0.355	0.355	0.0	94	0.00	4.19
45	M	methacrylonitrile	0.199	0.227	-14.1	107	0.00	3.99
46	M	1,1,1-trichloroethane	0.563	0.541	3.9	90	0.00	4.23
47		cyclohexane	0.597	0.573	4.0	92	0.00	4.29
48		1,1-dichloropropene	0.519	0.535	-3.1	98	0.00	4.33
49		iso-butyl alcohol	0.033	0.033	0.0	101	0.00	4.33
50		carbon tetrachloride	0.460	0.455	1.1	91	0.00	4.35
51		tert amyl alcohol	0.028	0.031	-10.7	103	0.00	4.43
52	I	1,4-difluorobenzene	1.000	1.000	0.0	93	0.00	4.75
53	S	1,2-dichloroethane-d4 (s)	0.281	0.264	6.0	90	0.00	4.44
54	M	n-butyl alcohol	0.016	0.017	-6.3	99	0.00	4.81
55		2,2,4-trimethylpentane	0.709	0.726	-2.4	98	0.00	4.55
56	M	benzene	1.077	1.164	-8.1	101	0.00	4.48
57	M	tert-amyl methyl ether	0.209	0.215	-2.9	95	0.00	4.54
58	M	heptane	0.183	0.181	1.1	93	0.00	4.66
59	M	isopropyl acetate	0.089	0.092	-3.4	95	0.00	4.45
60	M	1,2-dichloroethane	0.362	0.353	2.5	95	0.00	4.50
61	M	trichloroethene	0.290	0.293	-1.0	95	0.00	4.95
62		ethyl acrylate	0.442	0.481	-8.8	99	0.00	4.96
63	M	2-nitropropane	0.079	0.082	-3.8	103	0.00	5.49
64	M	2-chloroethyl vinyl ether	0.181	0.186	-2.8	91	0.00	5.52
65	M	methyl methacrylate	0.352	0.346	1.7	97	0.00	5.14
66	M	1,2-dichloropropane	0.261	0.298	-14.2	108	0.00	5.14
67	M	dibromomethane	0.153	0.165	-7.8	100	0.00	5.21
68	M	methylcyclohexane	0.456	0.429	5.9	91	0.00	5.14
69	M	bromodichloromethane	0.319	0.345	-8.2	101	0.00	5.33
70		epichlorohydrin	0.043	0.047	-9.3	98	0.00	5.57
71	M	cis-1,3-dichloropropene	0.419	0.441	-5.3	99	0.00	5.67
72	M	4-methyl-2-pentanone	0.149	0.170	-14.1	105	0.00	5.77
73	M	3-methyl-1-butanol	0.023	0.024	-4.3	96	0.00	5.78
74	I	chlorobenzene-d5	1.000	1.000	0.0	95	0.00	7.14
75	S	toluene-d8 (s)	1.270	1.281	-0.9	96	0.00	5.89
76		toluene	0.811	0.830	-2.3	100	0.00	5.96
77		trans-1,3-dichloropropene	0.453	0.454	-0.2	98	0.00	6.12
78		ethyl methacrylate	0.475	0.512	-7.8	100	0.00	6.14
79		1,1,2-trichloroethane	0.230	0.251	-9.1	103	0.00	6.29
80	M	tetrachloroethene	0.284	0.292	-2.8	98	0.00	6.39
81	M	1,3-dichloropropane	0.479	0.519	-8.4	103	0.00	6.44
82		2-hexanone	0.180	0.199	-10.6	103	0.00	6.46
83	M	butyl acetate	0.284	0.314	-10.6	104	0.00	6.54
84	M	dibromochloromethane	0.272	0.309	-13.6	108	0.00	6.63
85	M	1,2-dibromoethane	0.364	0.403	-10.7	107	0.00	6.74
86		n-butyl ether	1.297	1.384	-6.7	102	0.00	7.22
87	M	chlorobenzene	0.863	0.867	-0.5	99	0.00	7.17
88	M	1,1,1,2-tetrachloroethane	0.283	0.291	-2.8	98	0.00	7.24
89	M	ethylbenzene	1.484	1.518	-2.3	97	0.00	7.25
90	M	m,p-xylene	0.583	0.587	-0.7	97	0.00	7.36
91	M	o-xylene	0.562	0.561	0.2	97	0.00	7.72
92	M	styrene	0.942	0.965	-2.4	97	0.00	7.73
93	M	bromoform	0.202	0.224	-10.9	106	0.00	7.91
94		butyl acrylate	0.668	0.731	-9.4	99	0.00	7.64
95		n-amyl acetate	0.289	0.312	-8.0	101	0.00	7.85
96		isopropylbenzene	1.418	1.426	-0.6	96	0.00	8.05
97		cis-1,4-dichloro-2-butene	0.152	0.120	21.1#	75	0.00	8.10
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	9.34

Continuing Calibration Summary

Job Number: JC86512 **Sample:** V3D6281-CC6212
Account: GEIMAW GEI Consultants, Inc. **Lab FileID:** 3D146918.D
Project: Tufts Street, Somerville, MA

99	S	4-bromofluorobenzene (s)	0.944	0.902	4.4	96	0.00	8.22
100	M	bromobenzene	0.793	0.759	4.3	97	0.00	8.37
101	M	1,1,2,2-tetrachloroethane	0.867	0.898	-3.6	103	0.00	8.33
102	M	trans-1,4-dichloro-2-bute	0.259	0.207	20.1#	81	0.00	8.37
103	M	1,2,3-trichloropropane	0.300	0.291	3.0	99	0.00	8.39
104	M	n-propylbenzene	3.416	3.255	4.7	95	0.00	8.45
105	M	2-chlorotoluene	0.711	0.671	5.6	94	0.00	8.54
106	M	4-chlorotoluene	0.712	0.678	4.8	96	0.00	8.66
107	M	1,3,5-trimethylbenzene	2.410	2.294	4.8	95	0.00	8.62
108	M	tert-butylbenzene	0.537	0.504	6.1	94	0.00	8.92
109	M	1,2,4-trimethylbenzene	2.377	2.298	3.3	97	0.00	8.99
110	M	sec-butylbenzene	2.814	2.678	4.8	94	0.00	9.14
111	M	1,3-dichlorobenzene	1.402	1.335	4.8	97	0.00	9.27
112	M	p-isopropyltoluene	2.453	2.294	6.5	95	0.00	9.29
113	M	1,4-dichlorobenzene	1.423	1.362	4.3	98	0.00	9.36
114		benzyl chloride	1.659	1.519	8.4	90	0.00	9.47
115	M	1,2-dichlorobenzene	1.339	1.285	4.0	97	0.00	9.72
116	M	n-butylbenzene	1.084	1.039	4.2	95	0.00	9.69
117	M	1,2-dibromo-3-chloropropa	0.178	0.163	8.4	93	0.00	10.48
118		1,3,5-trichlorobenzene	0.946	0.885	6.4	96	0.00	10.67
119		2-ethylhexyl acrylate	0.457	0.245	46.4#	62	0.00	11.48
120	M	1,2,4-trichlorobenzene	0.819	0.768	6.2	94	0.00	11.30
121	M	hexachlorobutadiene	0.323	0.287	11.1	90	0.00	11.45
122	M	naphthalene	2.601	2.196	15.6	87	0.00	11.56
123	M	1,2,3-trichlorobenzene	0.750	0.691	7.9	92	0.00	11.79
124	m	hexachloroethane	0.345	0.341	1.2	102	0.00	9.99
125		2-methylnaphthalene	1.069	0.638	40.3#	64	0.00	12.70
126		Bis(chloromethyl)ether		----------NA----------				
127		Ethylenimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D145276.D M3D6212.M Tue Apr 23 12:01:23 2019

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146933.D
Acq On : 23 Apr 2019 1:11 pm
Operator : JessicaP
Sample : JC86512-1
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 23 15:53:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

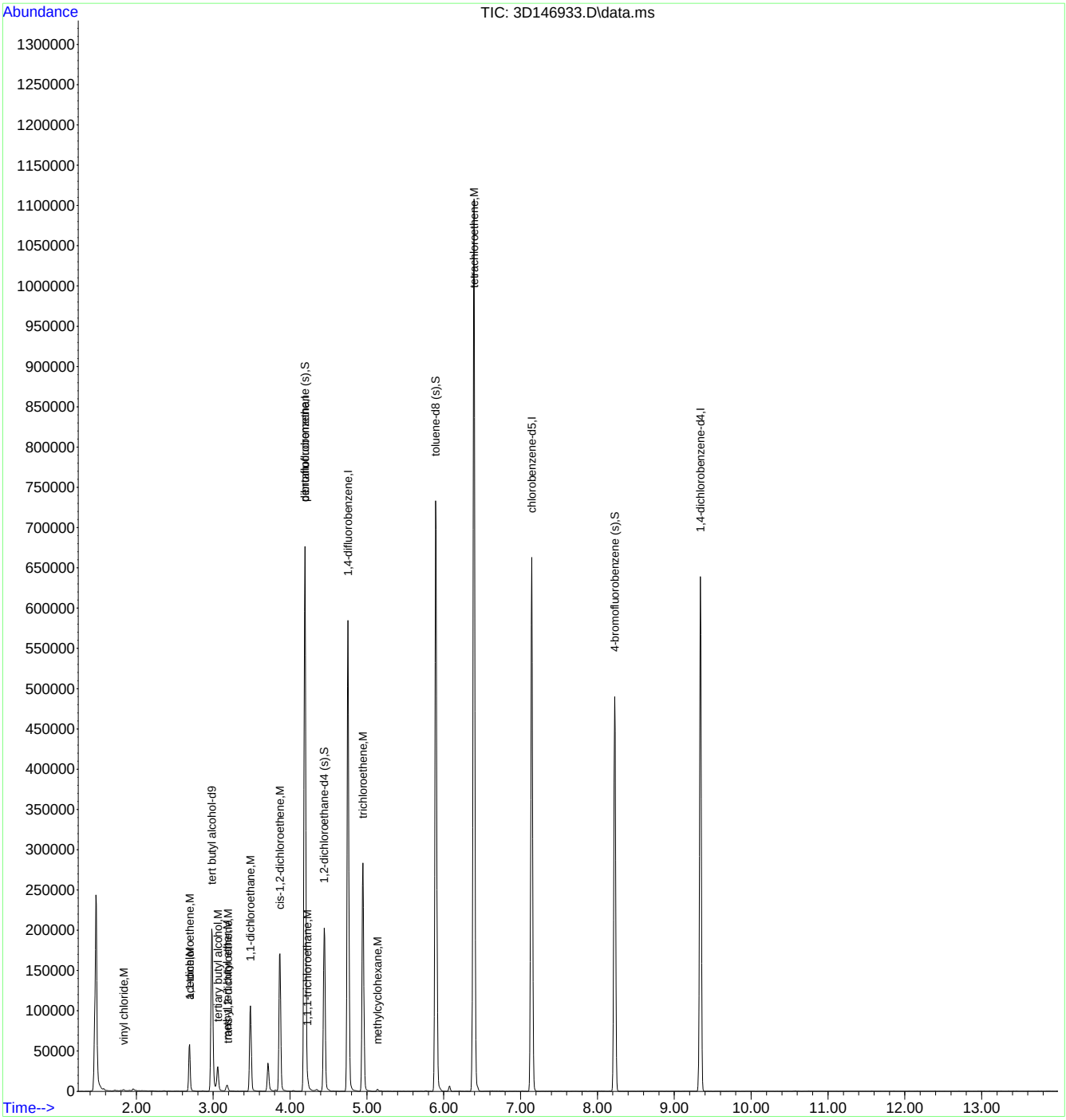
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.980	65	206406	500.00	ug/L	0.00
5) pentafluorobenzene	4.193	168	295926	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	410648	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	360749	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	174819	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.193	113	104914	49.89	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.78%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	112822	48.93	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 97.86%			
75) toluene-d8 (s)	5.894	98	456683	49.84	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.68%			
99) 4-bromofluorobenzene (s)	8.223	95	157242	47.64	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 95.28%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.060	59	12835	24.02	ug/L	72
9) vinyl chloride	1.828	62	1355	0.48	ug/L	94
18) 1,1-dichloroethene	2.694	96	18478	9.41	ug/L	96
19) acetone	2.694	58	537	1.82	ug/L	86
25) methyl tert butyl ether	3.181	73	5729	0.87	ug/L	95
26) trans-1,2-dichloroethene	3.200	96	559	0.25	ug/L #	71
29) 1,1-dichloroethane	3.486	63	84181	22.69	ug/L	99
37) cis-1,2-dichloroethene	3.870	96	64886	27.33	ug/L	91
46) 1,1,1-trichloroethane	4.230	97	3404	1.02	ug/L #	55
61) trichloroethene	4.949	130	88006	36.97	ug/L	97
68) methylcyclohexane	5.138	83	1002	0.27	ug/L	87
80) tetrachloroethene	6.394	164	263993	128.80	ug/L	98

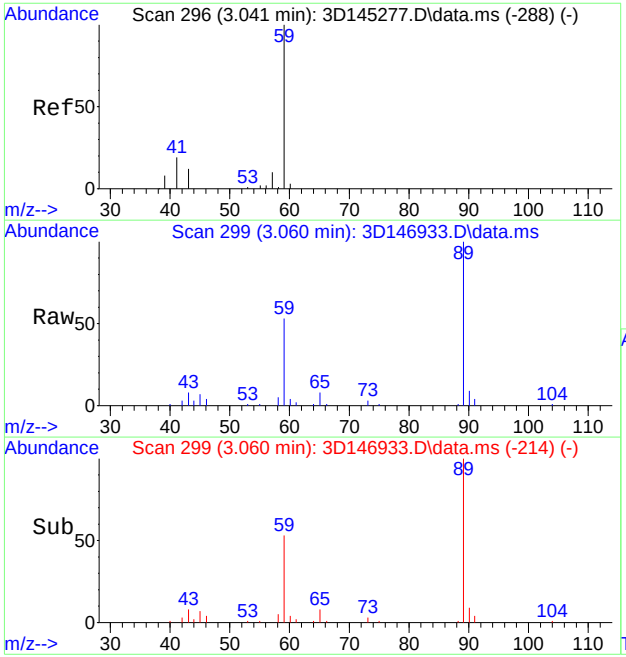
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146933.D
Acq On : 23 Apr 2019 1:11 pm
Operator : JessicaP
Sample : JC86512-1
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 23 15:53:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

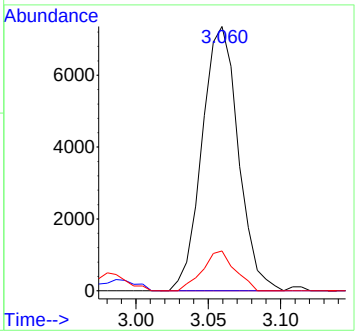


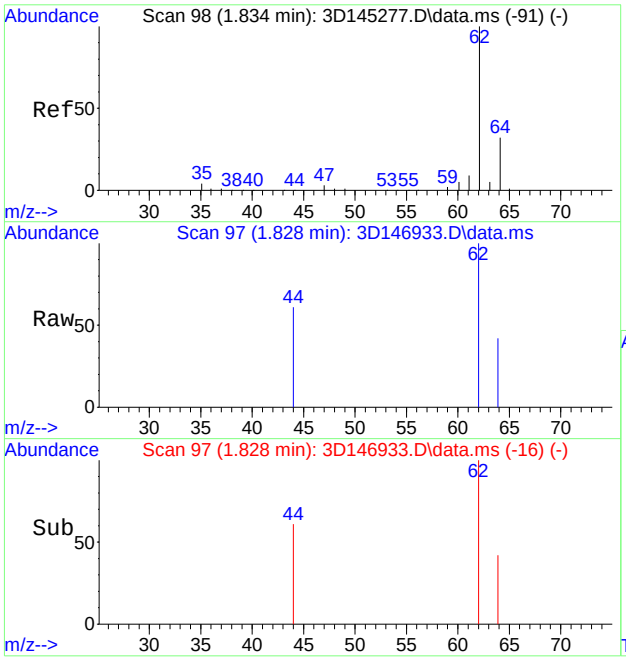


#2
tertiary butyl alcohol
Concen: 24.02 ug/L
RT: 3.060 min Scan# 299
Delta R.T. 0.018 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion: 59 Resp: 12835

Ion	Ratio	Lower	Upper
59	100		
41	0.0	0.0	48.9
43	15.1	0.0	42.3

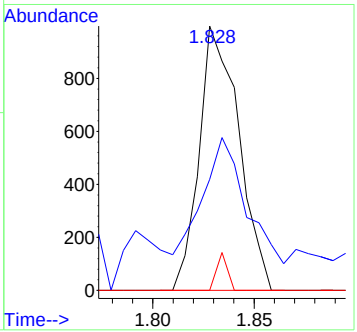


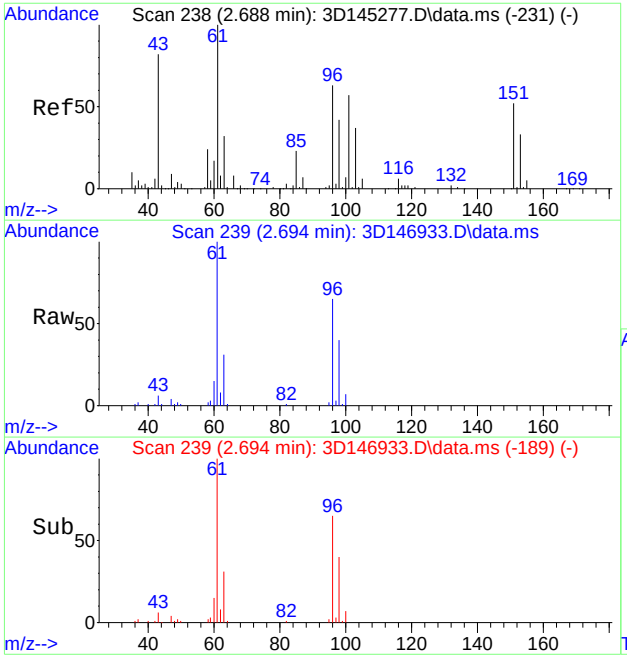


#9
vinyl chloride
Concen: 0.48 ug/L
RT: 1.828 min Scan# 97
Delta R.T. -0.006 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion: 62 Resp: 1355

Ion	Ratio	Lower	Upper
62	100		
64	31.9	1.5	61.5
61	0.0	0.0	38.8

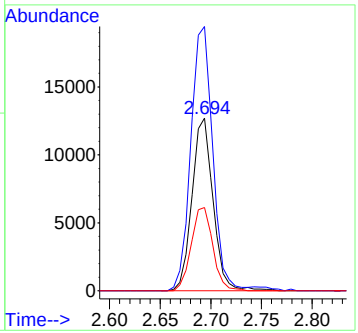


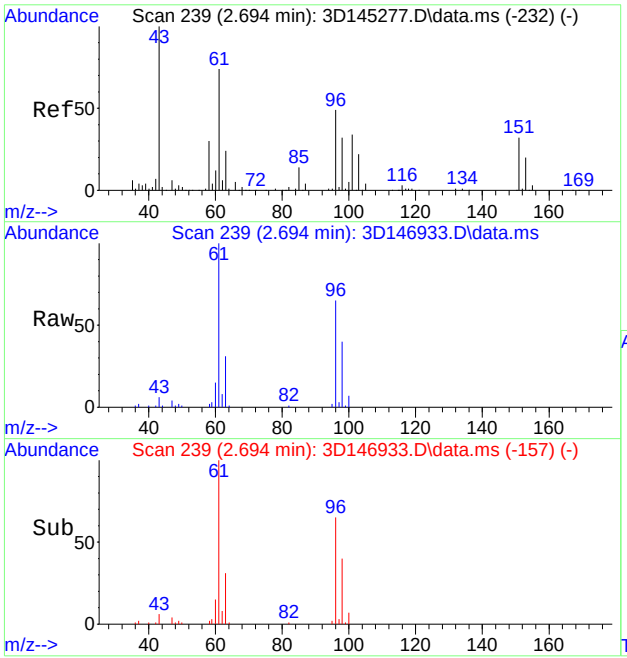


#18
1,1-dichloroethene
Concen: 9.41 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.006 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion: 96 Resp: 18478

Ion	Ratio	Lower	Upper
96	100		
61	153.2	127.6	187.6
63	48.2	21.0	81.0

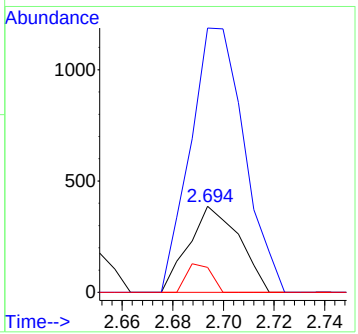


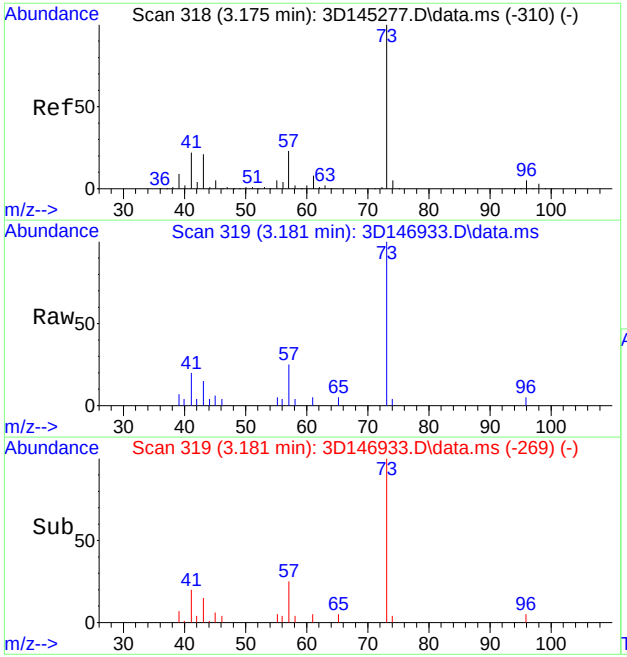


#19
acetone
Concen: 1.82 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.001 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion: 58 Resp: 537

Ion	Ratio	Lower	Upper
58	100		
43	307.0	306.2	366.2
42	28.9	0.0	54.2

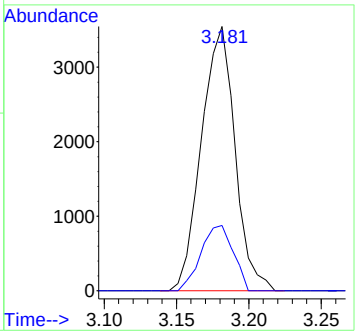


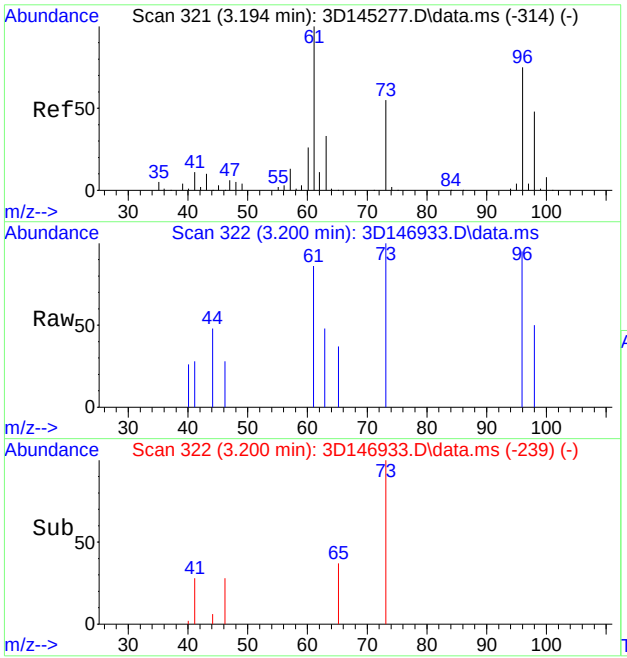


#25
methyl tert butyl ether
Concen: 0.87 ug/L
RT: 3.181 min Scan# 319
Delta R.T. 0.006 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion: 73 Resp: 5729

Ion	Ratio	Lower	Upper
73	100		
57	24.8	0.0	222.6

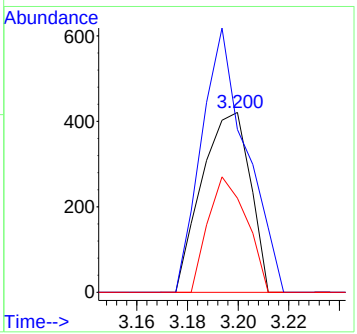


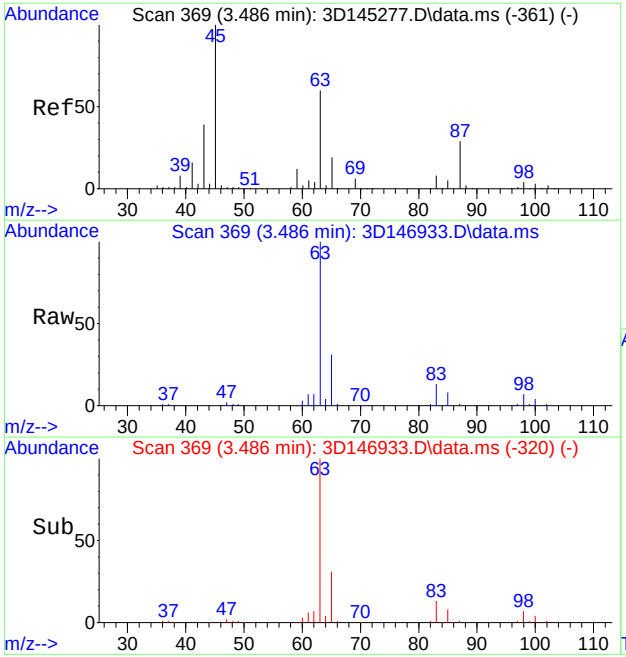


#26
trans-1,2-dichloroethene
Concen: 0.25 ug/L
RT: 3.200 min Scan# 322
Delta R.T. 0.006 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion: 96 Resp: 559

Ion	Ratio	Lower	Upper
96	100		
61	90.5	103.7	163.7#
98	52.3	33.7	93.7

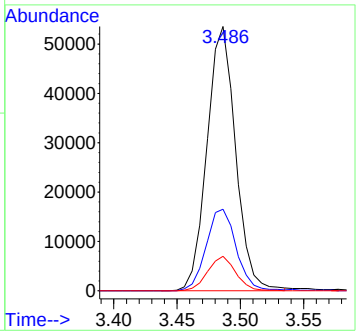


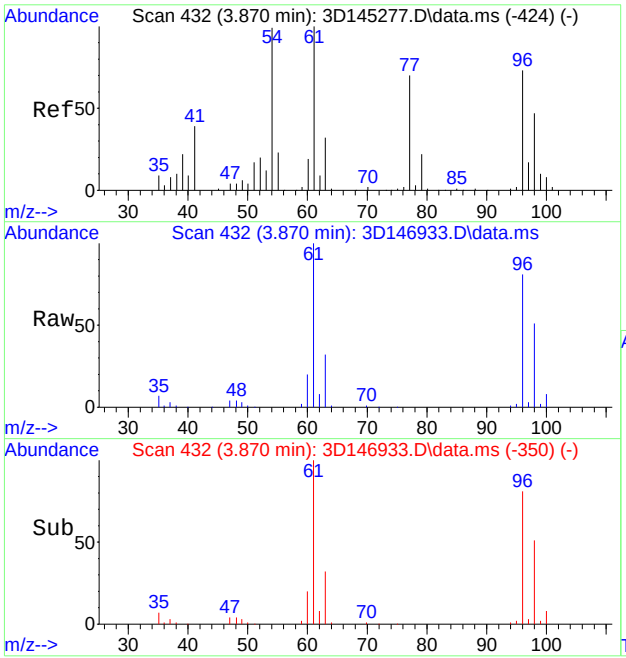


#29
1,1-dichloroethane
Concen: 22.69 ug/L
RT: 3.486 min Scan# 369
Delta R.T. -0.000 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion: 63 Resp: 84181

Ion	Ratio	Lower	Upper
63	100		
65	30.8	1.5	61.5
83	13.0	0.0	43.7

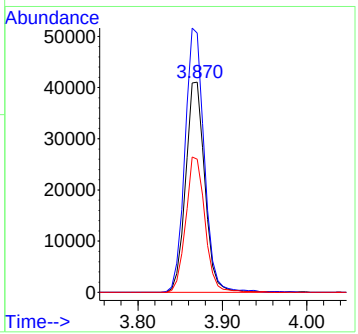


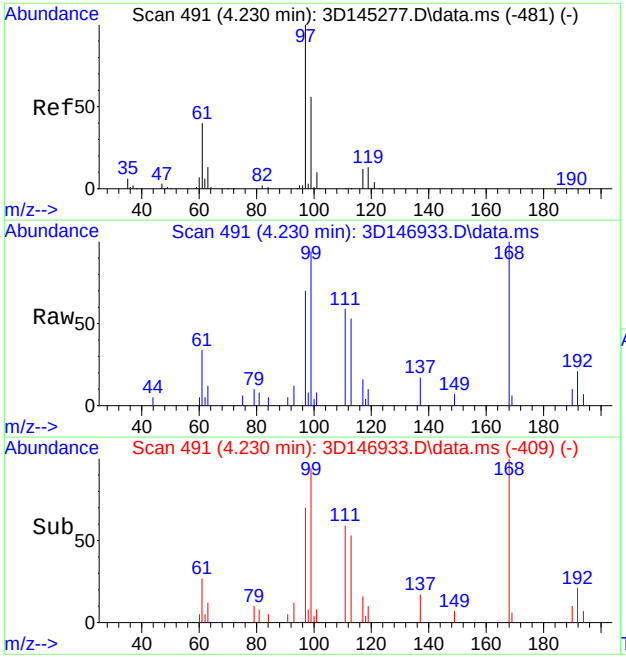


#37
cis-1,2-dichloroethene
Concen: 27.33 ug/L
RT: 3.870 min Scan# 432
Delta R.T. -0.000 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion: 96 Resp: 64886

Ion	Ratio	Lower	Upper
96	100		
61	123.3	107.5	167.5
98	63.3	35.2	95.2

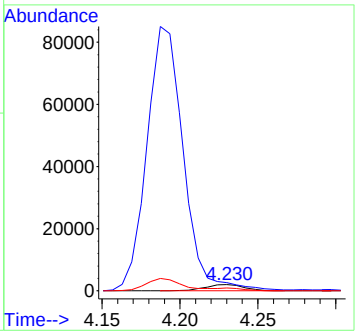


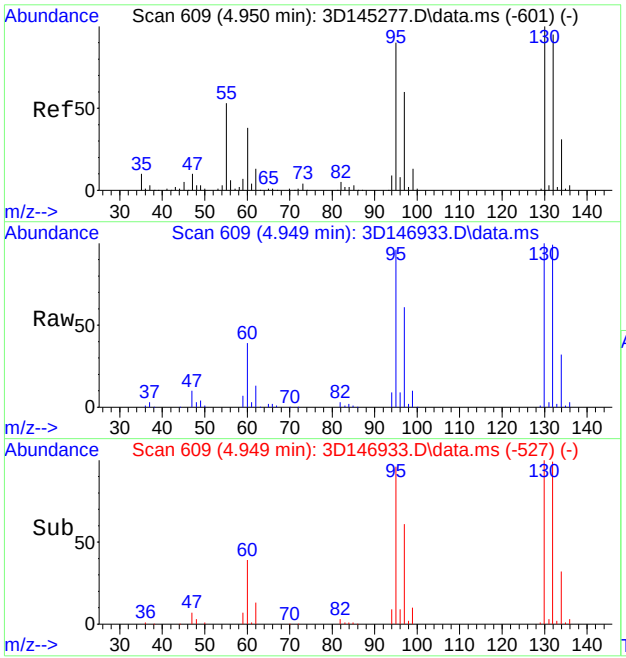


#46
1,1,1-trichloroethane
Concen: 1.02 ug/L
RT: 4.230 min Scan# 491
Delta R.T. -0.000 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion: 97 Resp: 3404

Ion	Ratio	Lower	Upper
97	100		
99	118.0	35.7	95.7#
61	48.0	10.4	70.4

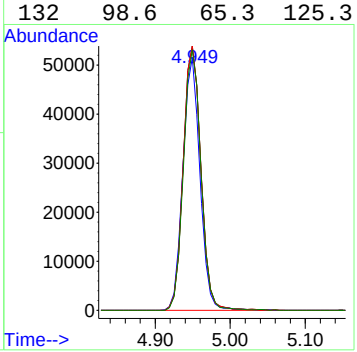


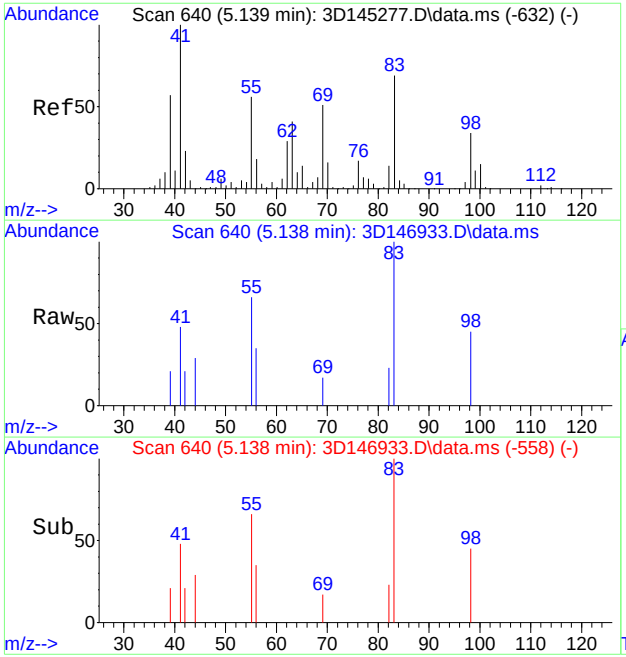


#61
trichloroethene
Concen: 36.97 ug/L
RT: 4.949 min Scan# 609
Delta R.T. -0.000 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion:130 Resp: 88006

Ion	Ratio	Lower	Upper
130	100		
95	95.6	60.4	120.4
130	100.0	70.0	130.0
132	98.6	65.3	125.3

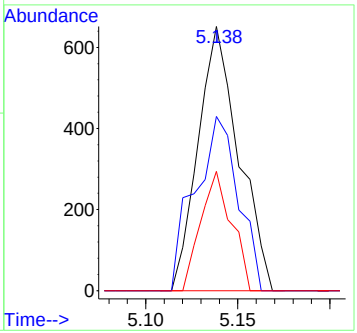


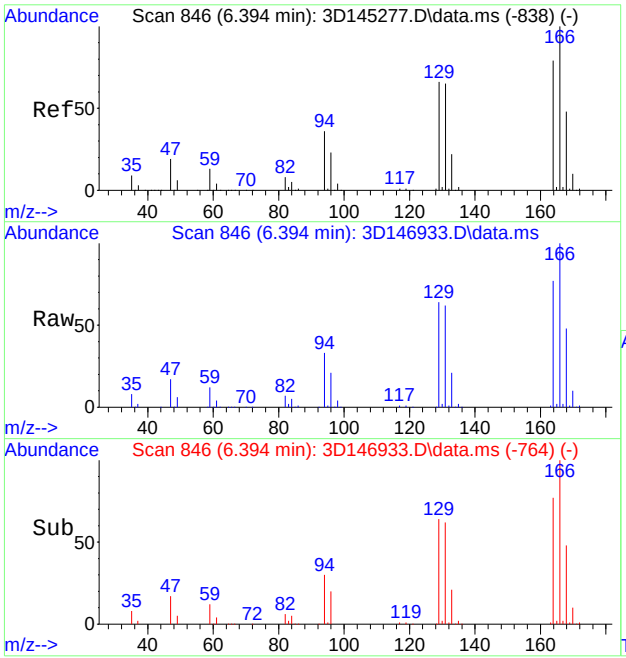


#68
methylcyclohexane
Concen: 0.27 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion: 83 Resp: 1002

Ion	Ratio	Lower	Upper
83	100		
55	66.0	51.3	111.3
98	45.1	19.5	79.5

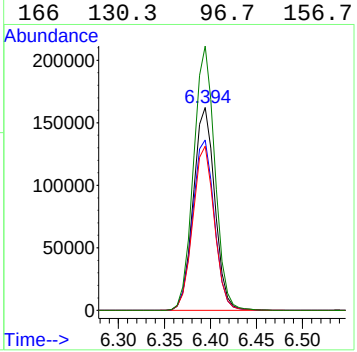




#80
tetrachloroethene
Concen: 128.80 ug/L
RT: 6.394 min Scan# 846
Delta R.T. -0.000 min
Lab File: 3D146933.D
Acq: 23 Apr 2019 1:11 pm

Tgt Ion:164 Resp: 263993

Ion	Ratio	Lower	Upper
164	100		
129	83.9	54.1	114.1
131	81.0	52.5	112.5
166	130.3	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146924.d
Acq On : 23 Apr 2019 9:25 am
Operator : JessicaP
Sample : JC86512-2 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 14:30:42 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

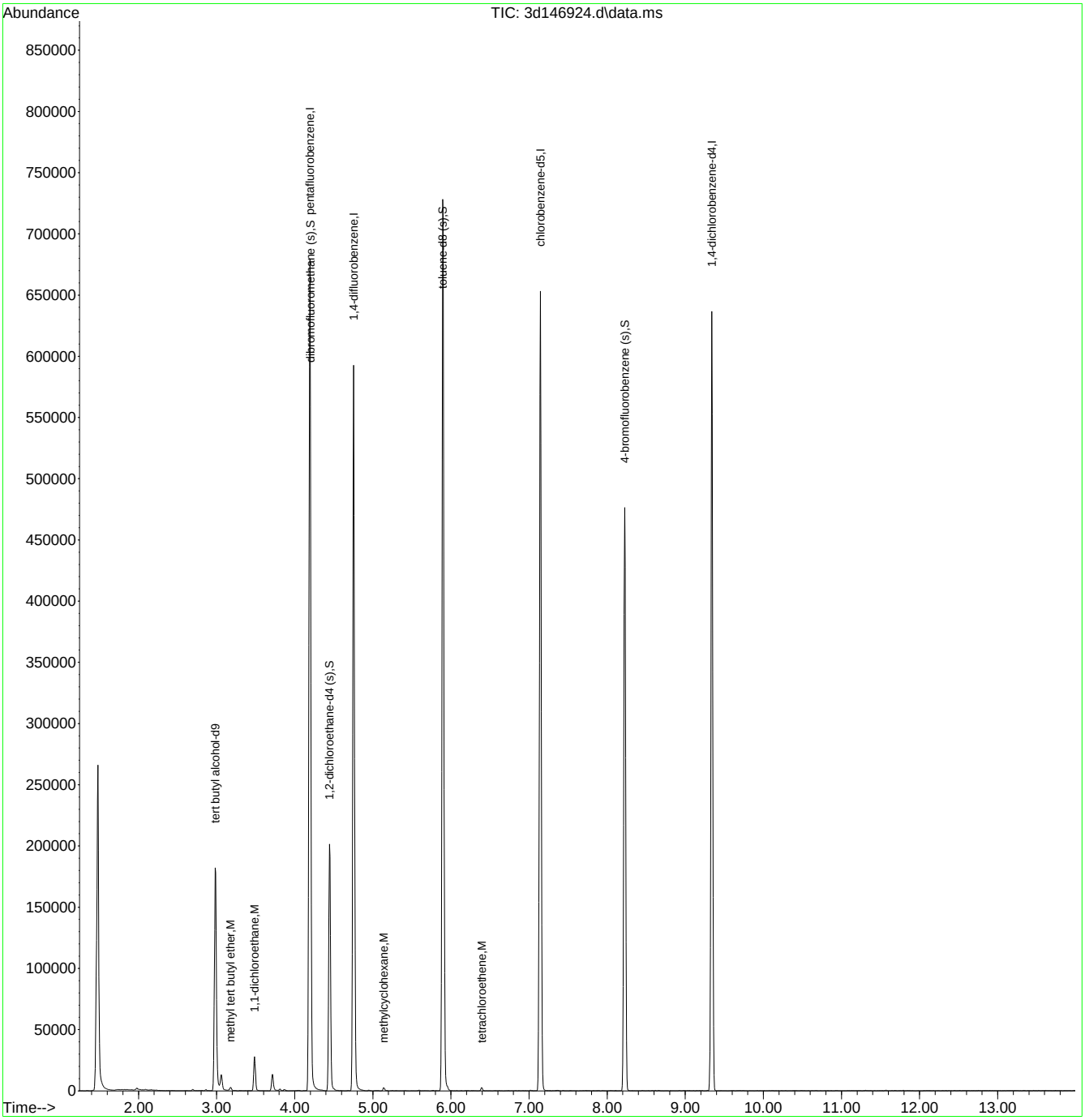
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	186292	500.00	ug/L	0.00
5) pentafluorobenzene	4.193	168	300567	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	410681	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	357380	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	170569	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	104997	49.16	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.32%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	109014	47.27	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 94.54%			
75) toluene-d8 (s)	5.894	98	457236	50.37	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.74%			
99) 4-bromofluorobenzene (s)	8.223	95	156409	48.57	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 97.14%			
Target Compounds						Qvalue
25) methyl tert butyl ether	3.175	73	2167	0.32	ug/L	93
29) 1,1-dichloroethane	3.486	63	21955	5.83	ug/L	97
68) methylcyclohexane	5.138	83	1000	0.27	ug/L	79
80) tetrachloroethene	6.394	164	759	0.37	ug/L	88

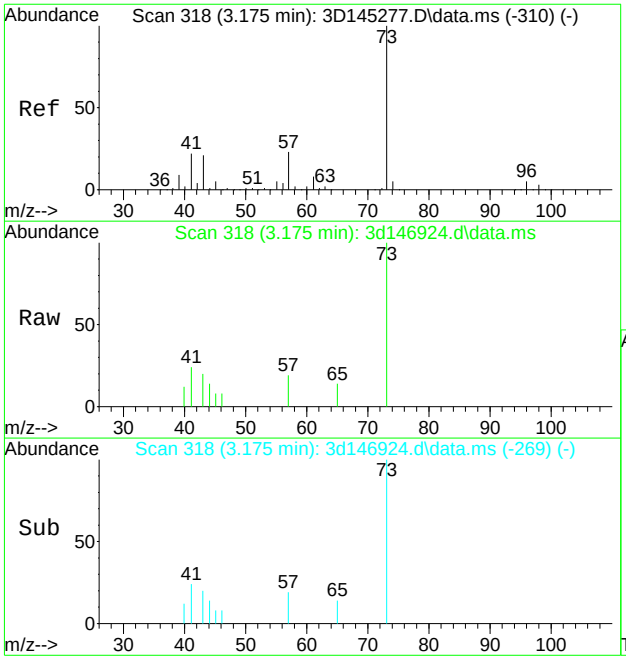
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146924.d
Acq On : 23 Apr 2019 9:25 am
Operator : JessicaP
Sample : JC86512-2 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 14:30:42 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

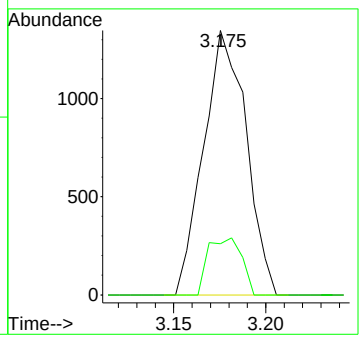


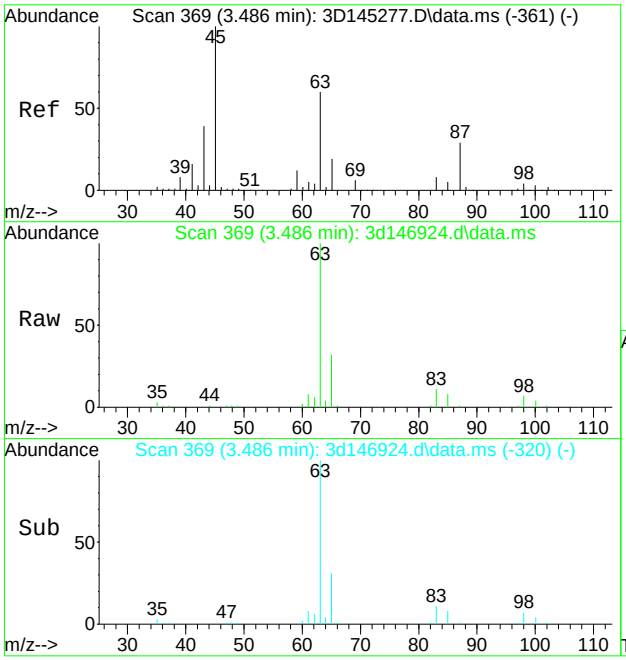


#25
methyl tert butyl ether
Concen: 0.32 ug/L
RT: 3.175 min Scan# 318
Delta R.T. -0.000 min
Lab File: 3d146924.d
Acq: 23 Apr 2019 9:25 am

Tgt Ion: 73 Resp: 2167

Ion	Ratio	Lower	Upper
73	100		
57	19.3	0.0	222.6

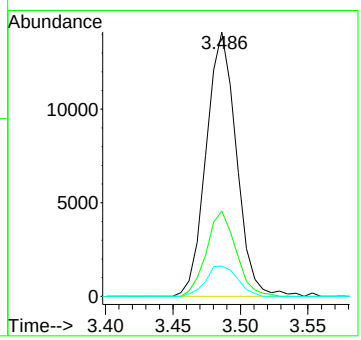


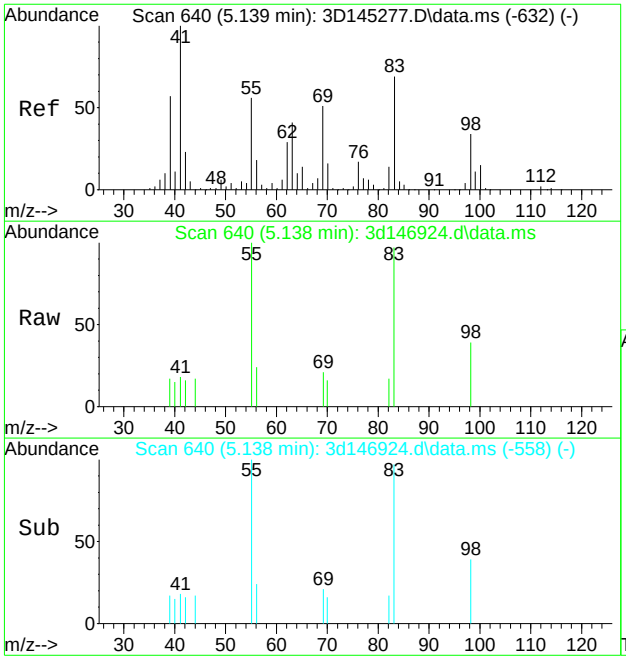


#29
1,1-dichloroethane
Concen: 5.83 ug/L
RT: 3.486 min Scan# 369
Delta R.T. -0.000 min
Lab File: 3d146924.d
Acq: 23 Apr 2019 9:25 am

Tgt Ion: 63 Resp: 21955

Ion	Ratio	Lower	Upper
63	100		
65	32.2	1.5	61.5
83	11.5	0.0	43.7

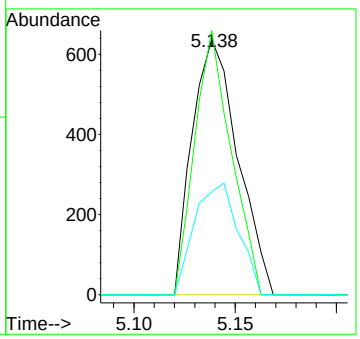


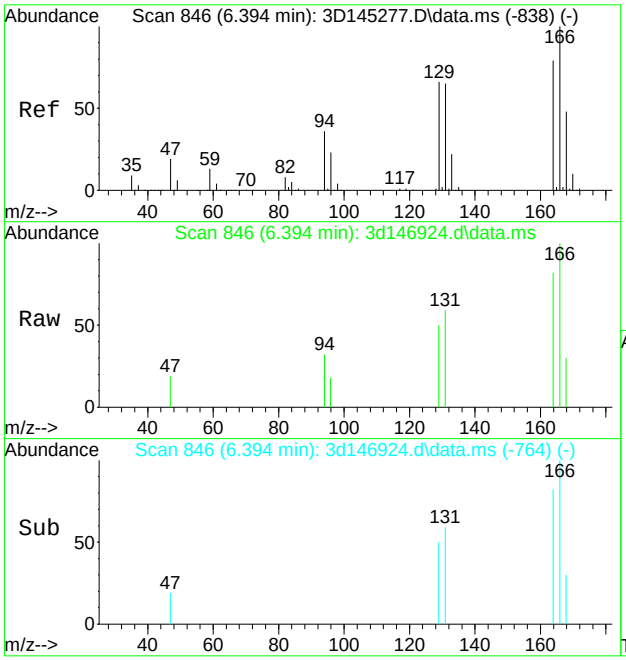


#68
methylcyclohexane
Concen: 0.27 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3d146924.d
Acq: 23 Apr 2019 9:25 am

Tgt Ion: 83 Resp: 1000

Ion	Ratio	Lower	Upper
83	100		
55	103.6	51.3	111.3
98	40.3	19.5	79.5

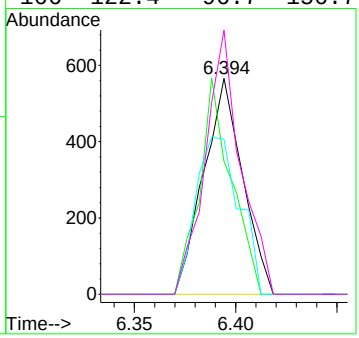




#80
tetrachloroethene
Concen: 0.37 ug/L
RT: 6.394 min Scan# 846
Delta R.T. -0.000 min
Lab File: 3d146924.d
Acq: 23 Apr 2019 9:25 am

Tgt Ion:164 Resp: 759

Ion	Ratio	Lower	Upper
164	100		
129	61.5	54.1	114.1
131	71.7	52.5	112.5
166	122.4	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146925.d
Acq On : 23 Apr 2019 9:50 am
Operator : JessicaP
Sample : JC86512-3 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 14:30:50 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

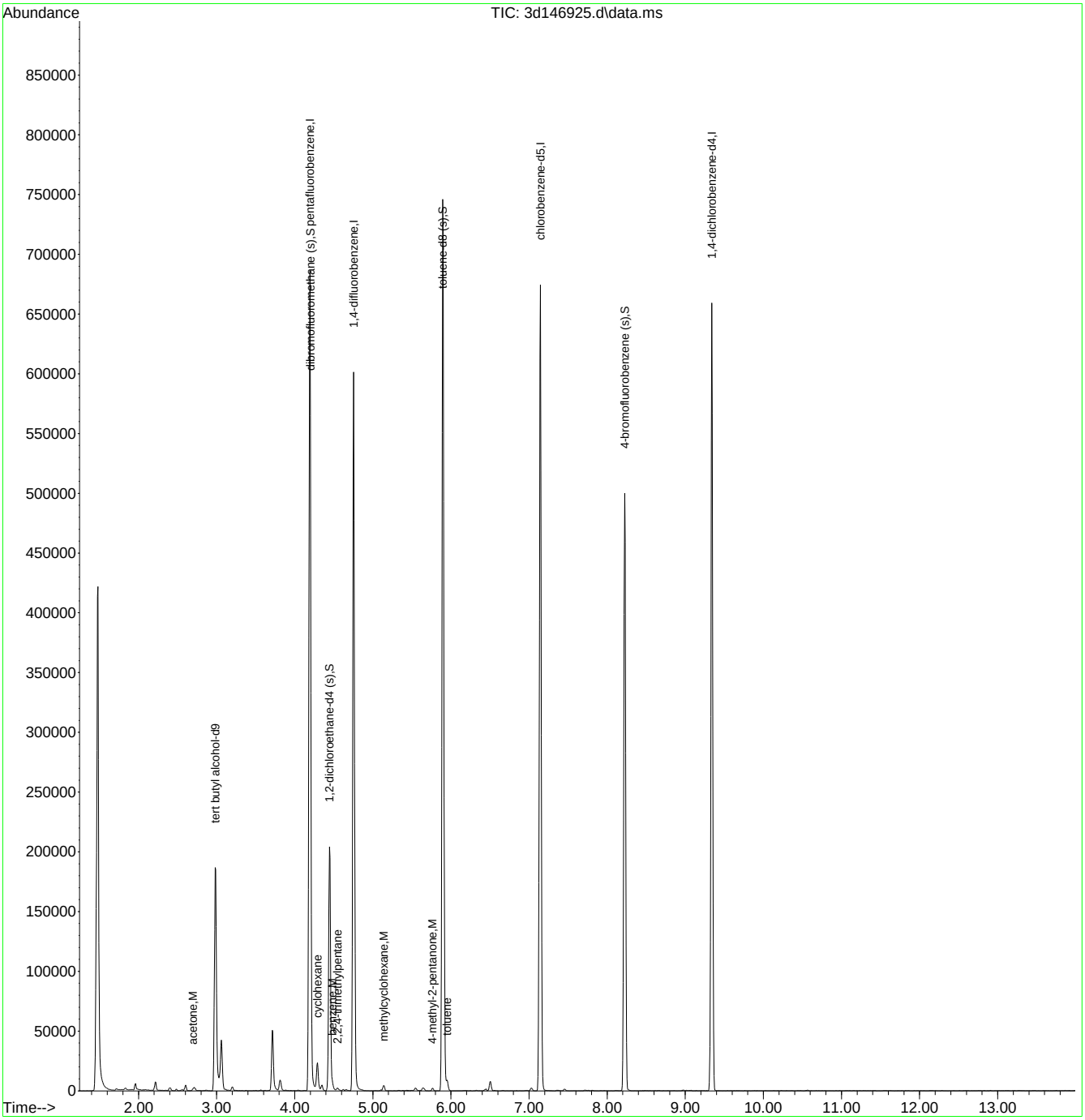
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	192810	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	303282	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	421398	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	370064	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	178303	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	108219	50.22	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.44%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	113995	48.18	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 96.36%			
75) toluene-d8 (s)	5.894	98	469086	49.91	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.82%			
99) 4-bromofluorobenzene (s)	8.223	95	162301	48.21	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.42%			
Target Compounds						Qvalue
19) acetone	2.694	58	380	1.26	ug/L #	82
47) cyclohexane	4.291	84	7505	2.07	ug/L #	40
55) 2,2,4-trimethylpentane	4.547	57	1584	0.27	ug/L #	67
56) benzene	4.480	78	3205	0.35	ug/L	97
68) methylcyclohexane	5.139	83	1758	0.46	ug/L	97
72) 4-methyl-2-pentanone	5.760	58	560	0.45	ug/L #	63
76) toluene	5.949	92	2119	0.35	ug/L #	74

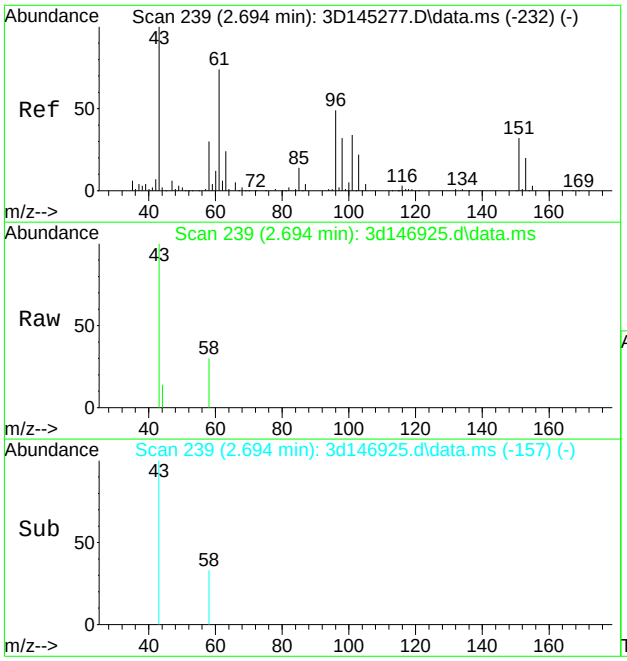
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146925.d
Acq On : 23 Apr 2019 9:50 am
Operator : JessicaP
Sample : JC86512-3 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 14:30:50 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

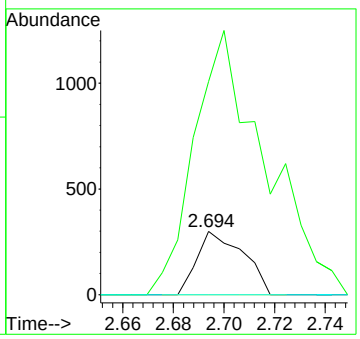


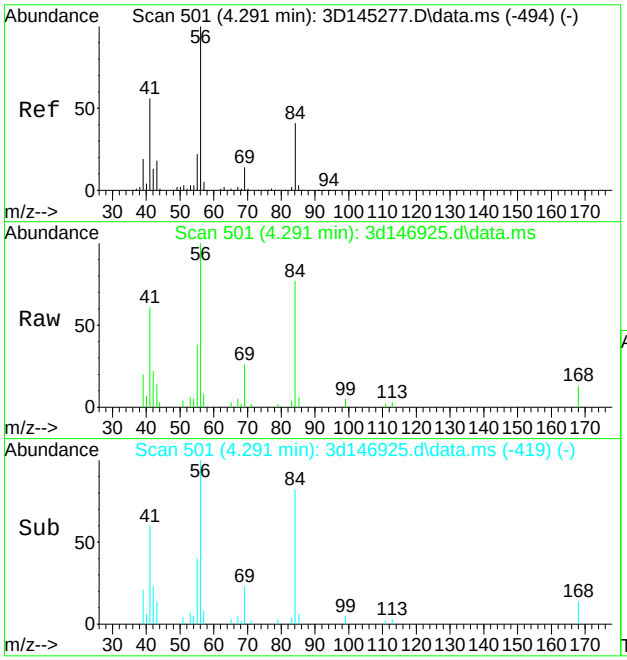


#19
acetone
Concen: 1.26 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.001 min
Lab File: 3d146925.d
Acq: 23 Apr 2019 9:50 am

Tgt Ion: 58 Resp: 380

Ion	Ratio	Lower	Upper
58	100		
43	302.3	306.2	366.2#
42	0.0	0.0	54.2

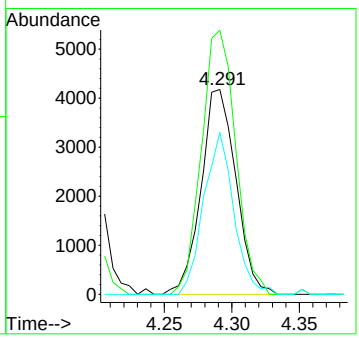


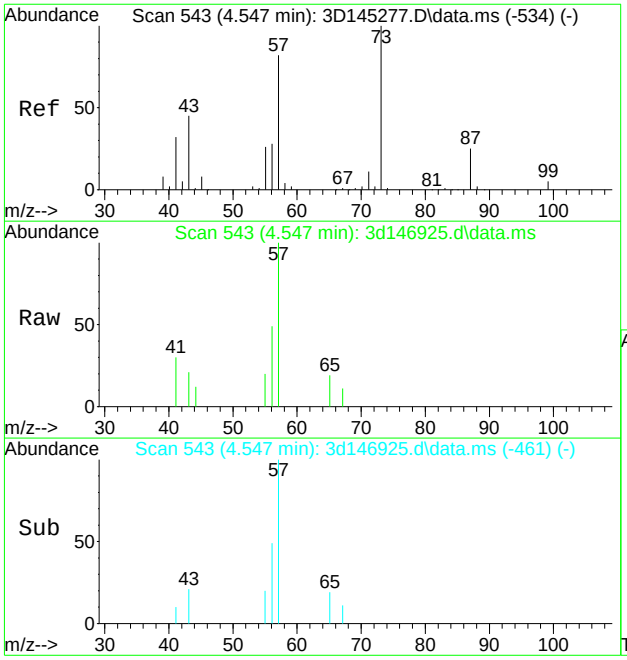


#47
cyclohexane
Concen: 2.07 ug/L
RT: 4.291 min Scan# 501
Delta R.T. 0.000 min
Lab File: 3d146925.d
Acq: 23 Apr 2019 9:50 am

Tgt Ion: 84 Resp: 7505

Ion	Ratio	Lower	Upper
84	100		
56	129.1	223.9	263.9#
41	79.1	116.5	156.5#

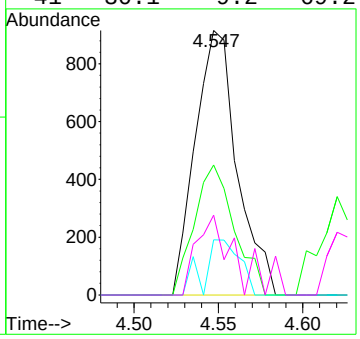


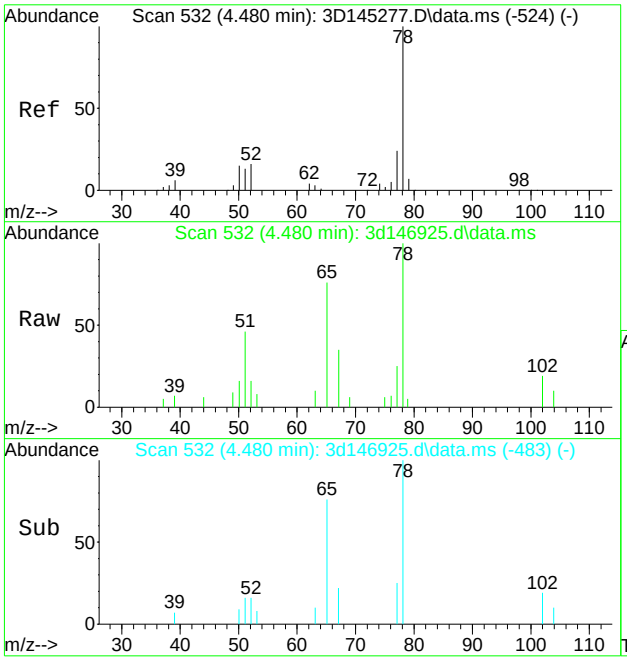


#55
2,2,4-trimethylpentane
Concen: 0.27 ug/L
RT: 4.547 min Scan# 543
Delta R.T. 0.000 min
Lab File: 3d146925.d
Acq: 23 Apr 2019 9:50 am

Tgt Ion: 57 Resp: 1584

Ion	Ratio	Lower	Upper
57	100		
56	49.1	4.3	64.3
43	20.9	26.9	86.9#
41	30.1	9.2	69.2

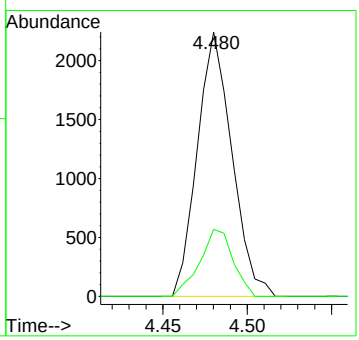


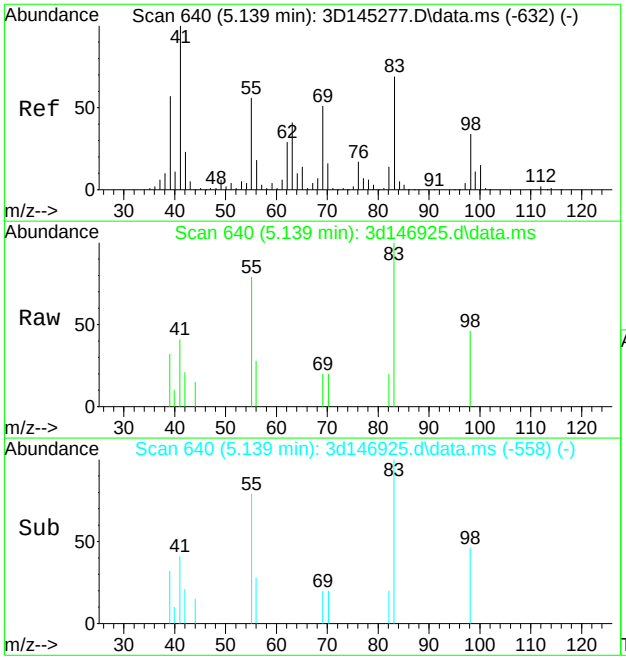


#56
benzene
Concen: 0.35 ug/L
RT: 4.480 min Scan# 532
Delta R.T. 0.000 min
Lab File: 3d146925.d
Acq: 23 Apr 2019 9:50 am

Tgt Ion: 78 Resp: 3205

Ion	Ratio	Lower	Upper
78	100		
77	25.4	0.0	53.8

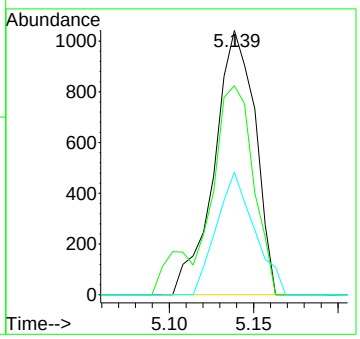


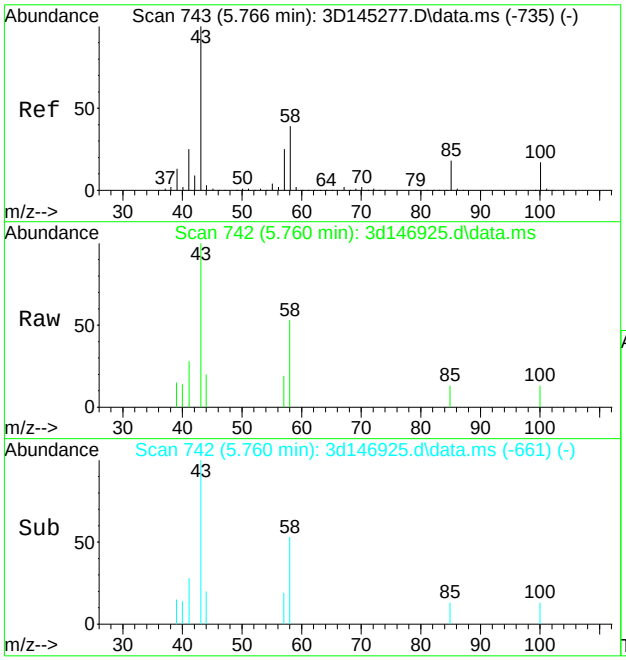


#68
methylcyclohexane
Concen: 0.46 ug/L
RT: 5.139 min Scan# 640
Delta R.T. 0.001 min
Lab File: 3d146925.d
Acq: 23 Apr 2019 9:50 am

Tgt Ion: 83 Resp: 1758

Ion	Ratio	Lower	Upper
83	100		
55	79.1	51.3	111.3
98	46.4	19.5	79.5

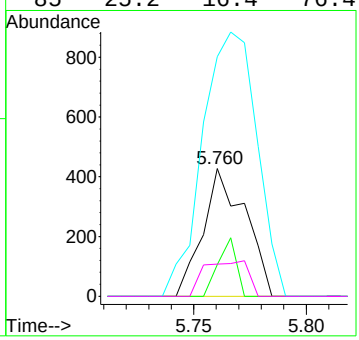


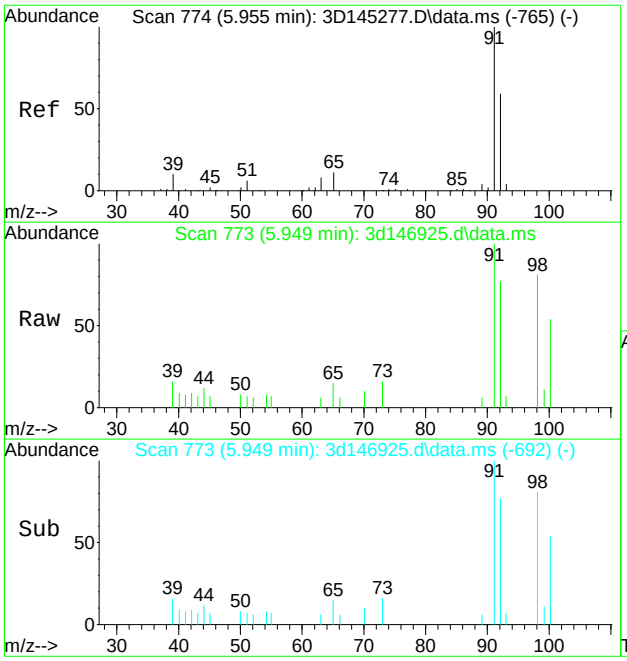


#72
4-methyl-2-pentanone
Concen: 0.45 ug/L
RT: 5.760 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3d146925.d
Acq: 23 Apr 2019 9:50 am

Tgt Ion: 58 Resp: 560

Ion	Ratio	Lower	Upper
58	100		
100	24.8	12.7	72.7
43	187.4	227.3	287.3#
85	25.2	16.4	76.4

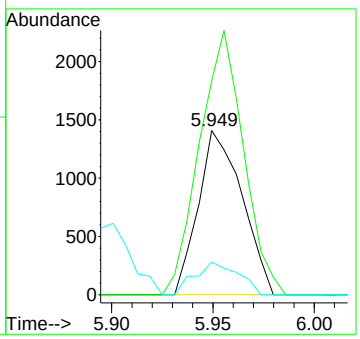




#76
toluene
Concen: 0.35 ug/L
RT: 5.949 min Scan# 773
Delta R.T. -0.006 min
Lab File: 3d146925.d
Acq: 23 Apr 2019 9:50 am

Tgt Ion: 92 Resp: 2119

Ion	Ratio	Lower	Upper
92	100		
91	130.1	148.6	188.6#
65	19.9	0.0	38.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146926.d
Acq On : 23 Apr 2019 10:16 am
Operator : JessicaP
Sample : JC86512-4 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 14:31:00 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

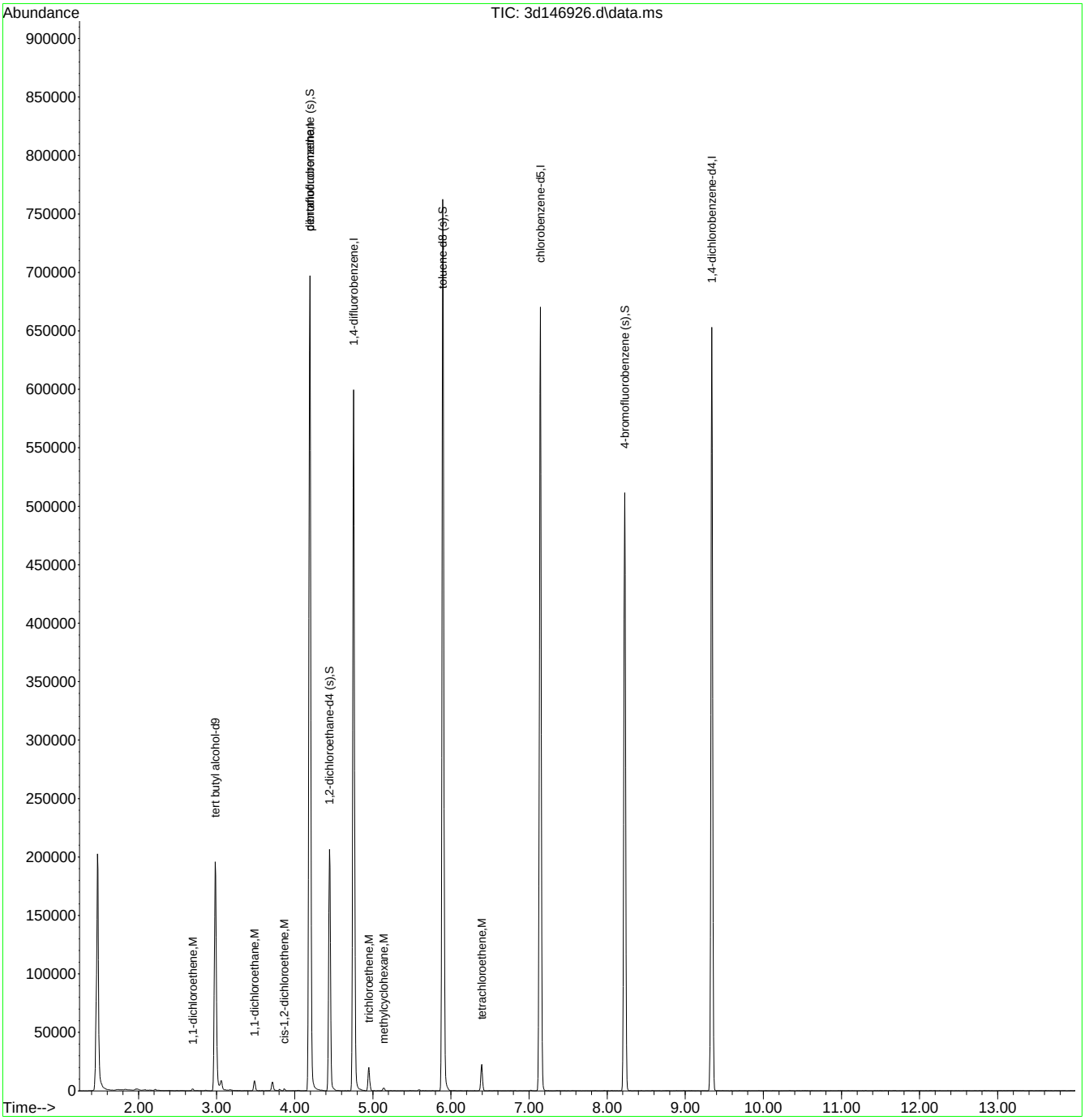
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	198968	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	307148	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	422773	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	367755	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	176342	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.194	113	106939	49.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.00%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	112024	47.19	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 94.38%			
75) toluene-d8 (s)	5.894	98	470370	50.36	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.72%			
99) 4-bromofluorobenzene (s)	8.223	95	161372	48.47	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.94%			
Target Compounds						Qvalue
18) 1,1-dichloroethene	2.694	96	475	0.23	ug/L #	66
29) 1,1-dichloroethane	3.486	63	6910	1.79	ug/L	96
37) cis-1,2-dichloroethene	3.864	96	608	0.25	ug/L	95
61) trichloroethene	4.950	130	6184	2.52	ug/L	96
68) methylcyclohexane	5.139	83	992	0.26	ug/L	92
80) tetrachloroethene	6.394	164	5340	2.56	ug/L	96

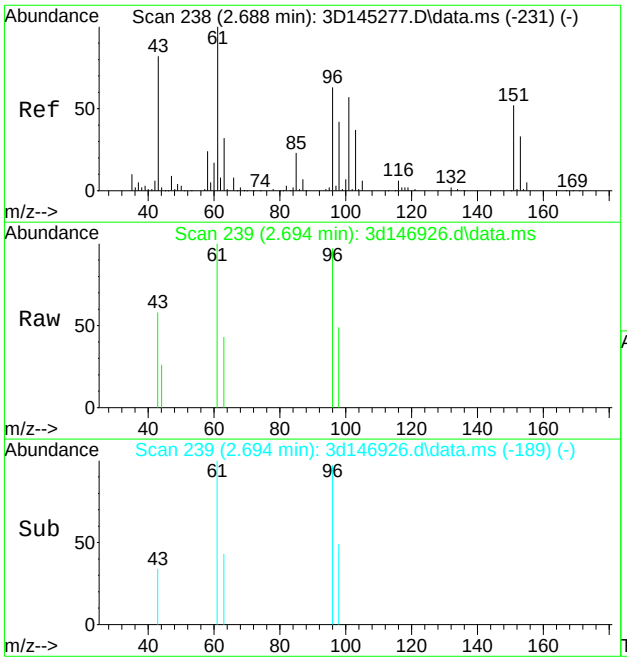
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146926.d
Acq On : 23 Apr 2019 10:16 am
Operator : JessicaP
Sample : JC86512-4 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 14:31:00 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

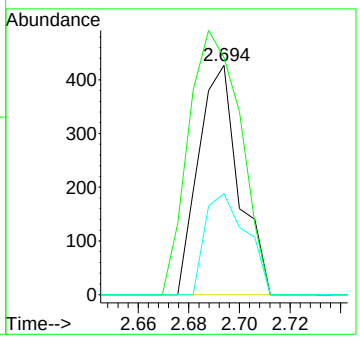


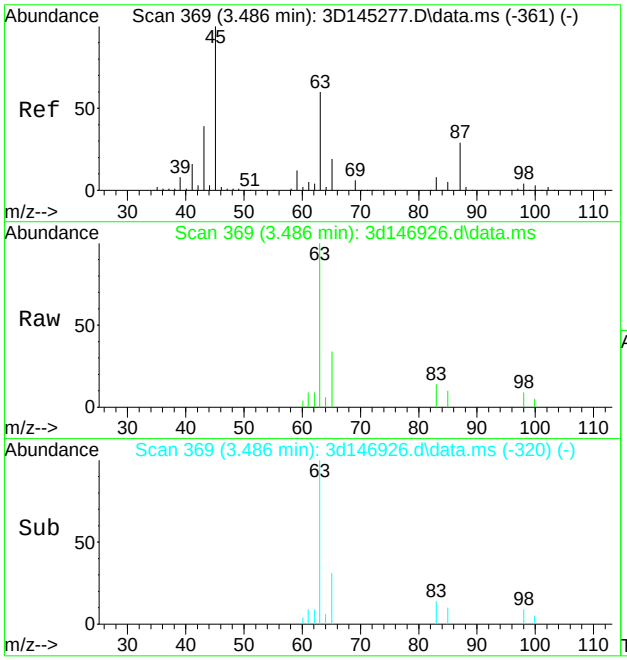


#18
1,1-dichloroethene
Concen: 0.23 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.006 min
Lab File: 3d146926.d
Acq: 23 Apr 2019 10:16 am

Tgt Ion: 96 Resp: 475

Ion	Ratio	Lower	Upper
96	100		
61	103.3	127.6	187.6#
63	44.0	21.0	81.0

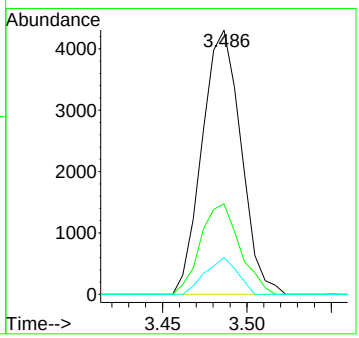


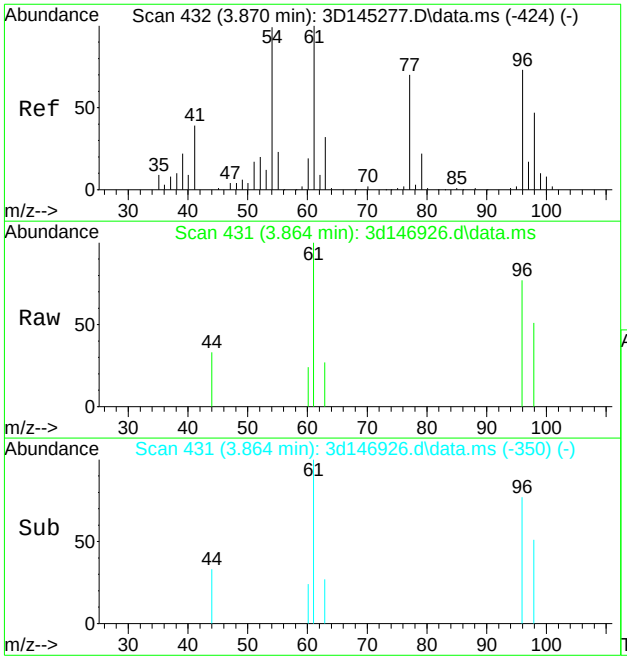


#29
1,1-dichloroethane
Concen: 1.79 ug/L
RT: 3.486 min Scan# 369
Delta R.T. 0.000 min
Lab File: 3d146926.d
Acq: 23 Apr 2019 10:16 am

Tgt Ion: 63 Resp: 6910

Ion	Ratio	Lower	Upper
63	100		
65	34.3	1.5	61.5
83	14.0	0.0	43.7

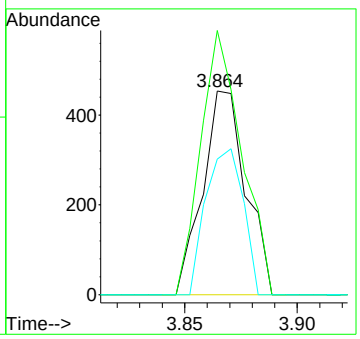


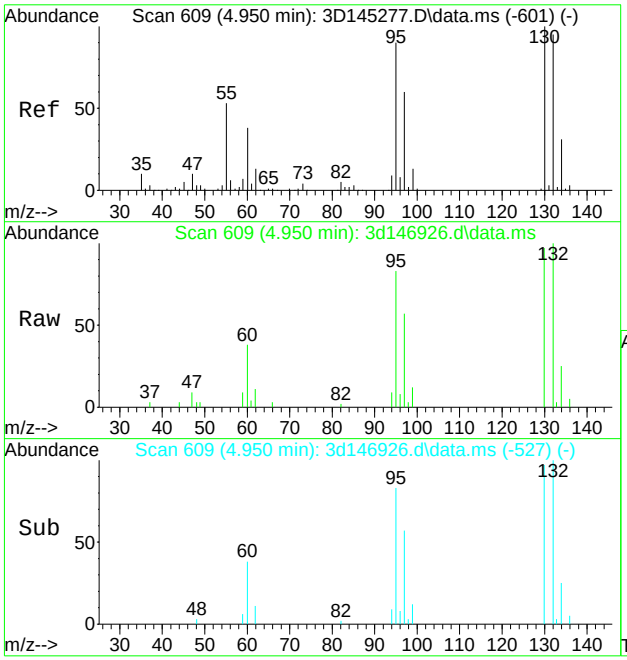


#37
cis-1,2-dichloroethene
Concen: 0.25 ug/L
RT: 3.864 min Scan# 431
Delta R.T. -0.006 min
Lab File: 3d146926.d
Acq: 23 Apr 2019 10:16 am

Tgt Ion: 96 Resp: 608

Ion	Ratio	Lower	Upper
96	100		
61	129.7	107.5	167.5
98	66.5	35.2	95.2

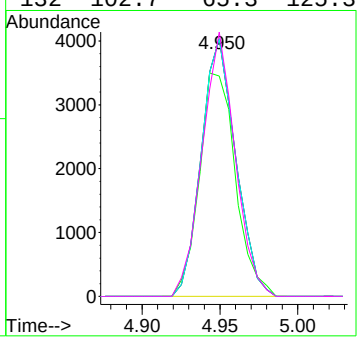


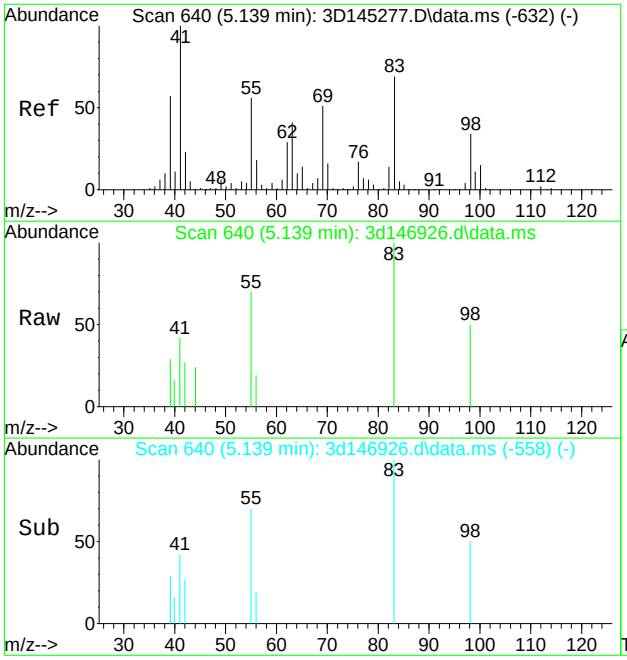


#61
trichloroethene
Concen: 2.52 ug/L
RT: 4.950 min Scan# 609
Delta R.T. 0.000 min
Lab File: 3d146926.d
Acq: 23 Apr 2019 10:16 am

Tgt Ion:130 Resp: 6184

Ion	Ratio	Lower	Upper
130	100		
95	85.5	60.4	120.4
130	100.0	70.0	130.0
132	102.7	65.3	125.3

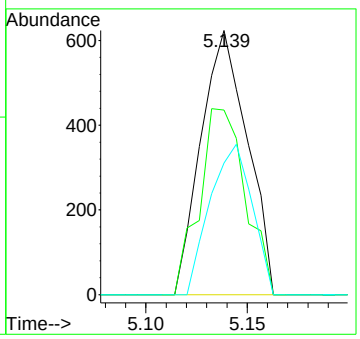


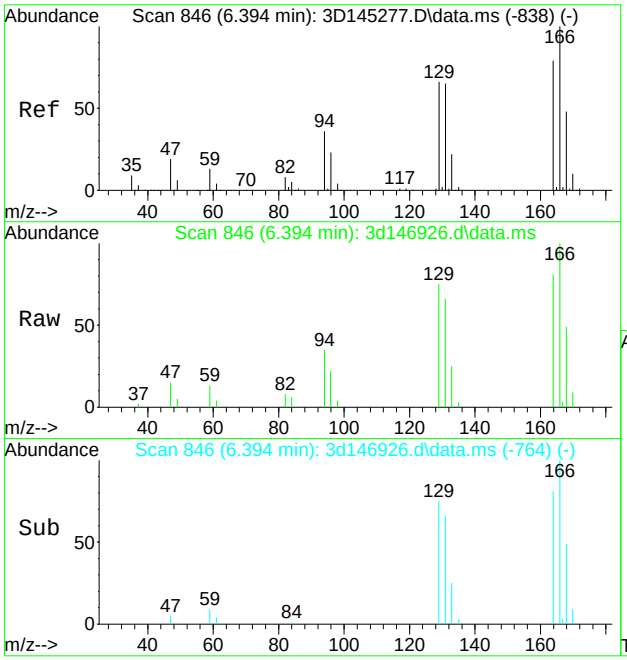


#68
methylcyclohexane
Concen: 0.26 ug/L
RT: 5.139 min Scan# 640
Delta R.T. 0.001 min
Lab File: 3d146926.d
Acq: 23 Apr 2019 10:16 am

Tgt Ion: 83 Resp: 992

Ion	Ratio	Lower	Upper
83	100		
55	69.9	51.3	111.3
98	49.8	19.5	79.5

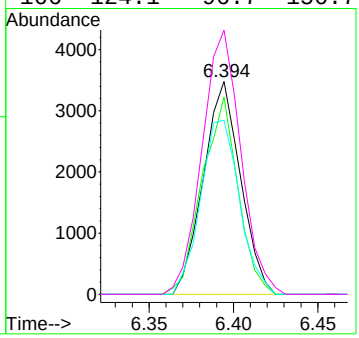




#80
tetrachloroethene
Concen: 2.56 ug/L
RT: 6.394 min Scan# 846
Delta R.T. 0.000 min
Lab File: 3d146926.d
Acq: 23 Apr 2019 10:16 am

Tgt Ion:164 Resp: 5340

Ion	Ratio	Lower	Upper
164	100		
129	92.6	54.1	114.1
131	81.7	52.5	112.5
166	124.1	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146927.d
Acq On : 23 Apr 2019 10:41 am
Operator : JessicaP
Sample : JC86512-5 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 12:06:10 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

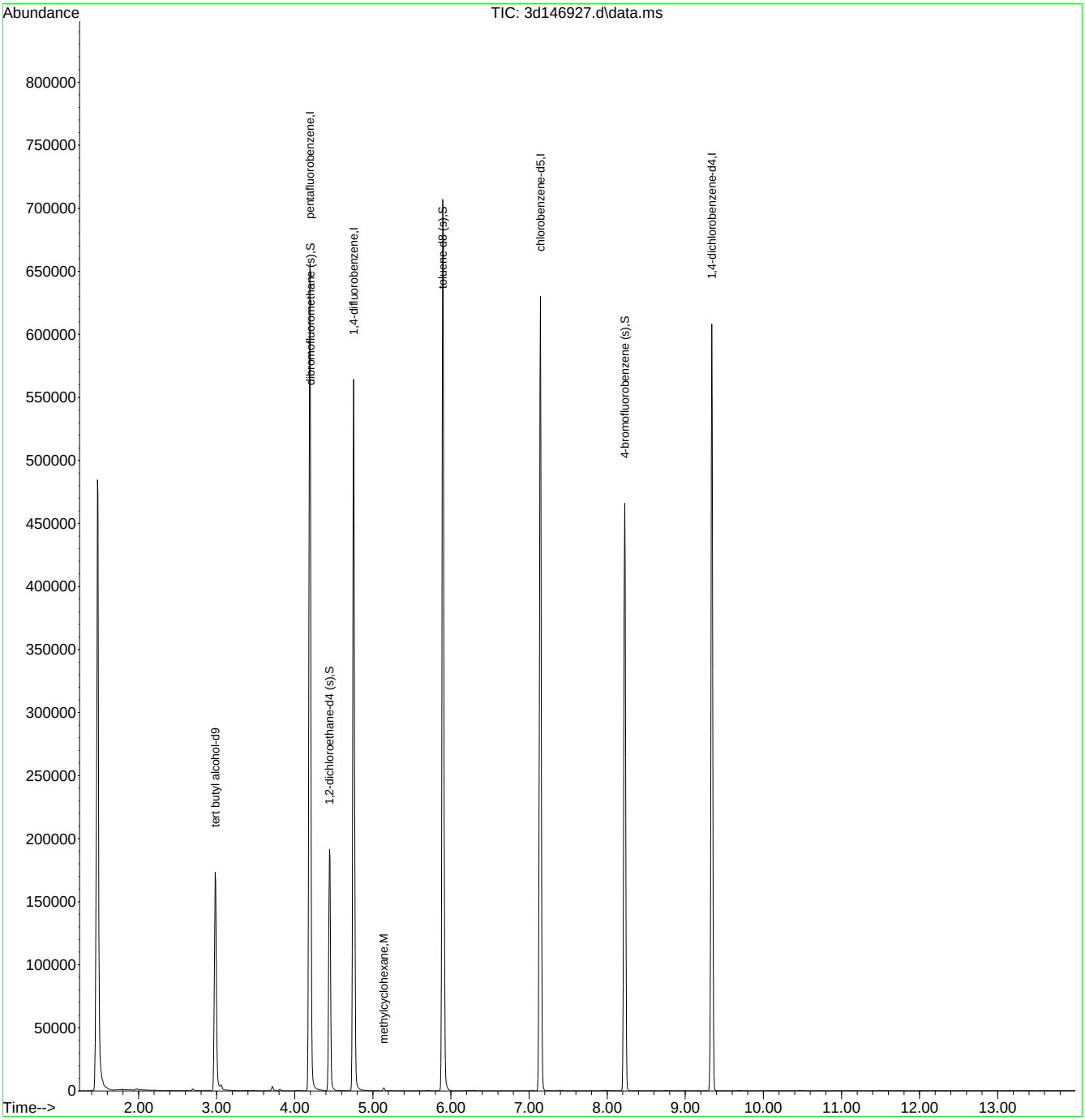
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	174309	500.00	ug/L	0.00
5) pentafluorobenzene	4.193	168	289681	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	396682	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	346468	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	166345	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	100858	49.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.00%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	105759	47.48	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 94.96%			
75) toluene-d8 (s)	5.894	98	443143	50.36	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.72%			
99) 4-bromofluorobenzene (s)	8.223	95	151200	48.14	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.28%			
Target Compounds						Qvalue
68) methylcyclohexane	5.138	83	894	0.25	ug/L	90

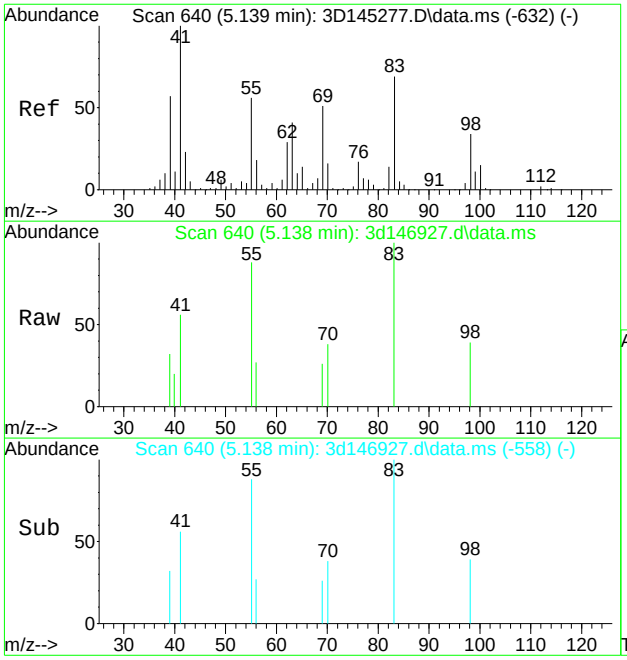
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146927.d
Acq On : 23 Apr 2019 10:41 am
Operator : JessicaP
Sample : JC86512-5 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 12:06:10 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

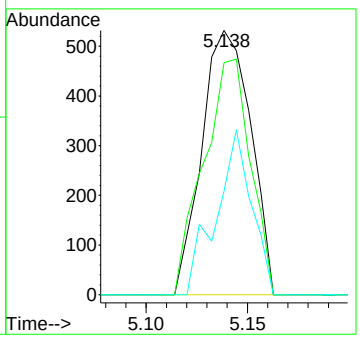




#68
methylcyclohexane
Concen: 0.25 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3d146927.d
Acq: 23 Apr 2019 10:41 am

Tgt Ion: 83 Resp: 894

Ion	Ratio	Lower	Upper
83	100		
55	87.8	51.3	111.3
98	39.1	19.5	79.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146928.d
Acq On : 23 Apr 2019 11:06 am
Operator : JessicaP
Sample : JC86512-6 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 14:31:12 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

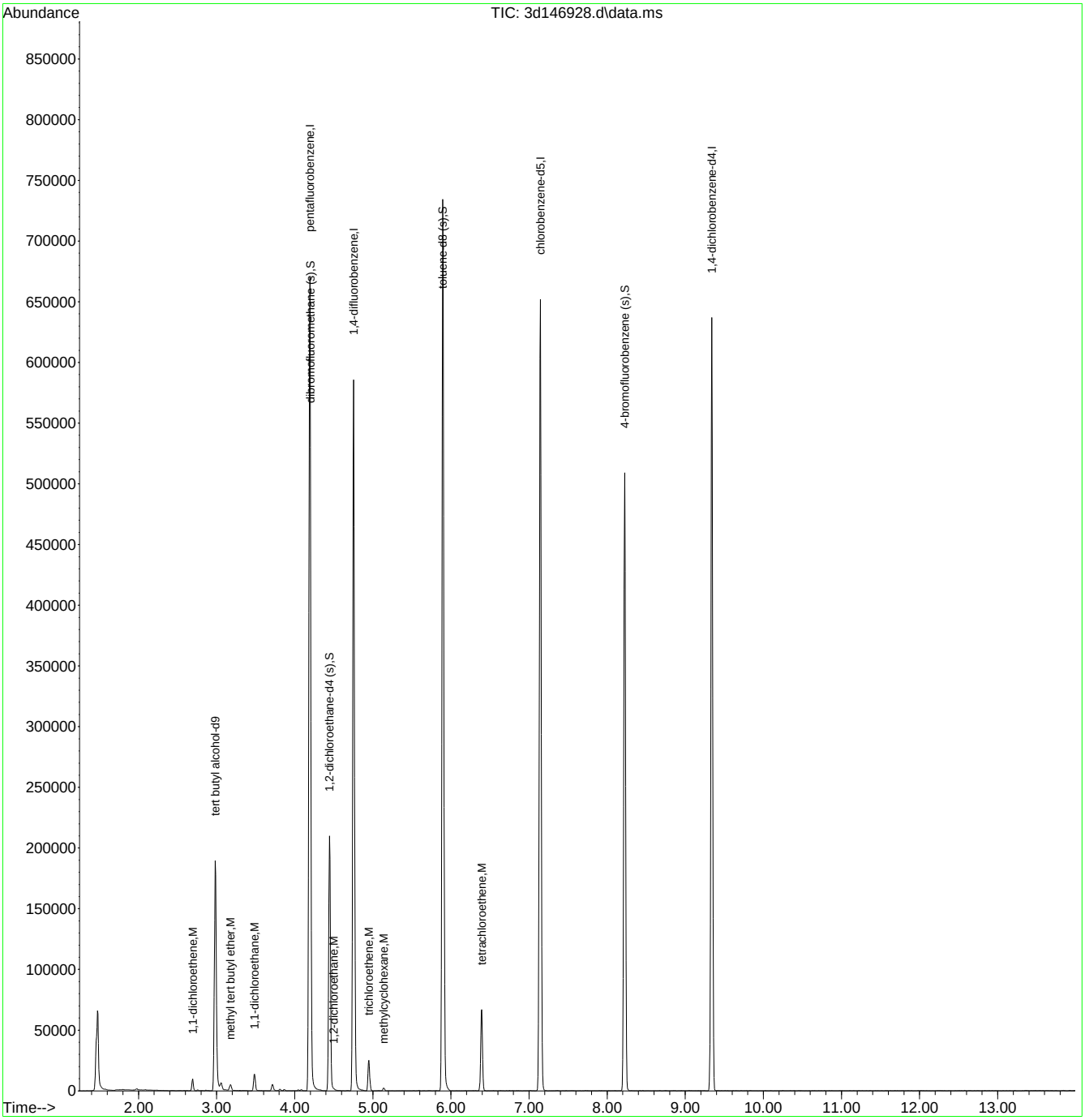
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	188885	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	295514	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	412102	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	360758	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	173832	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	105359	50.17	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.34%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	113699	49.13	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 98.26%			
75) toluene-d8 (s)	5.894	98	458349	50.02	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.04%			
99) 4-bromofluorobenzene (s)	8.223	95	158003	48.14	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.28%			
Target Compounds						Qvalue
18) 1,1-dichloroethene	2.694	96	2509	1.28	ug/L	94
25) methyl tert butyl ether	3.176	73	4287	0.65	ug/L	83
29) 1,1-dichloroethane	3.486	63	11461	3.09	ug/L	97
60) 1,2-dichloroethane	4.498	62	604	0.20	ug/L	81
61) trichloroethene	4.950	130	8194	3.43	ug/L	97
68) methylcyclohexane	5.139	83	891	0.24	ug/L	95
80) tetrachloroethene	6.394	164	15807	7.71	ug/L	89

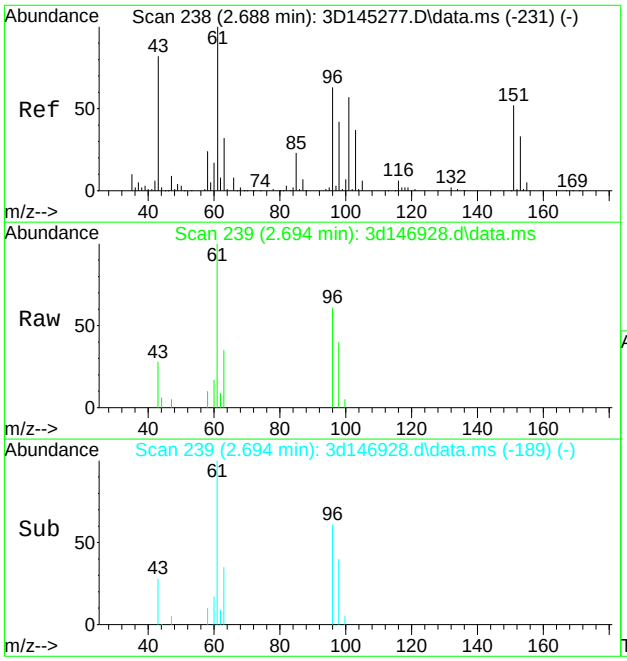
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146928.d
Acq On : 23 Apr 2019 11:06 am
Operator : JessicaP
Sample : JC86512-6 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 14:31:12 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

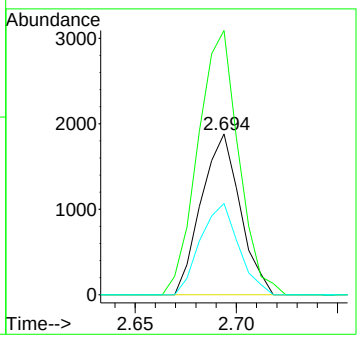


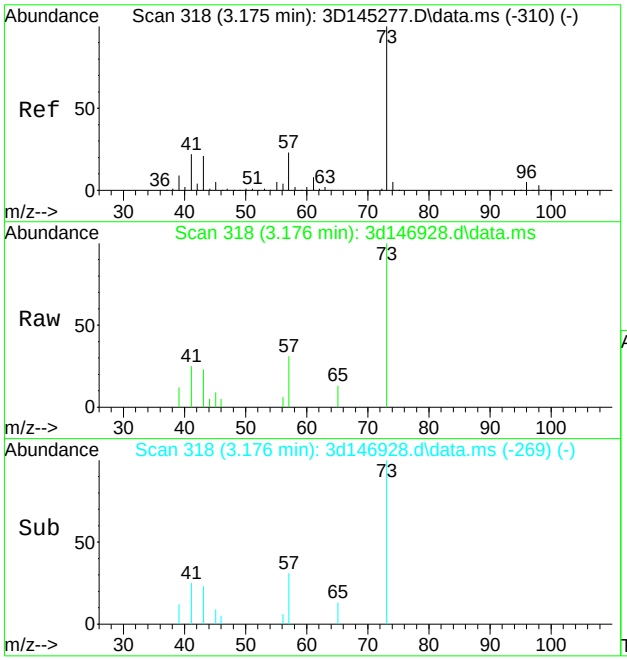


#18
1,1-dichloroethene
Concen: 1.28 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.006 min
Lab File: 3d146928.d
Acq: 23 Apr 2019 11:06 am

Tgt Ion: 96 Resp: 2509

Ion	Ratio	Lower	Upper
96	100		
61	164.4	127.6	187.6
63	56.8	21.0	81.0

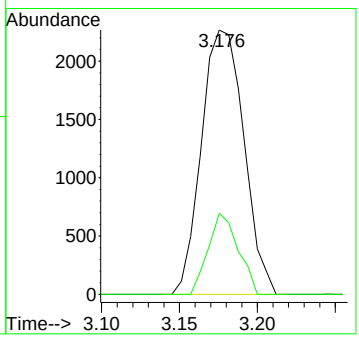


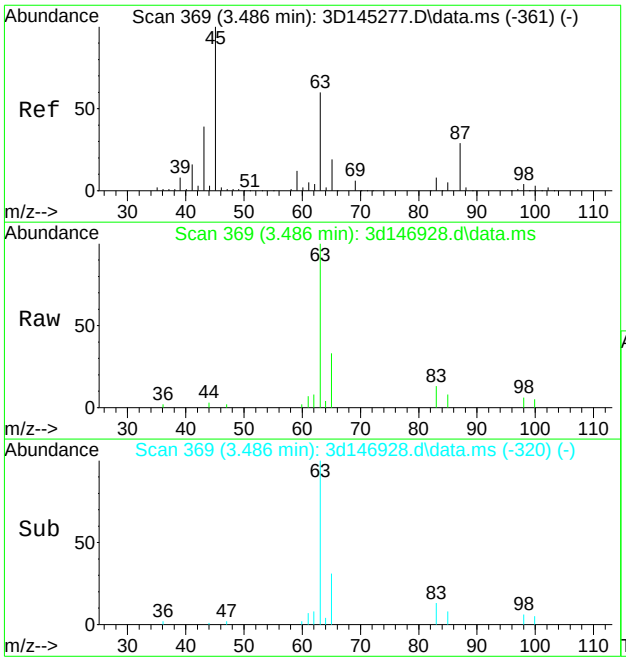


#25
methyl tert butyl ether
Concen: 0.65 ug/L
RT: 3.176 min Scan# 318
Delta R.T. 0.000 min
Lab File: 3d146928.d
Acq: 23 Apr 2019 11:06 am

Tgt Ion: 73 Resp: 4287

Ion	Ratio	Lower	Upper
73	100		
57	30.7	0.0	222.6

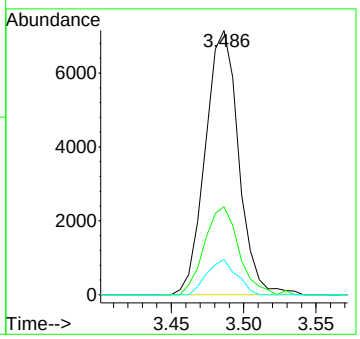


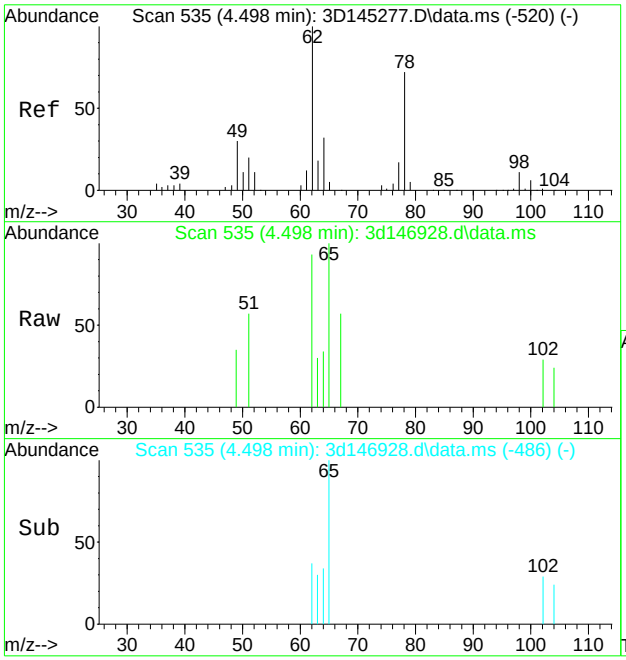


#29
1,1-dichloroethane
Concen: 3.09 ug/L
RT: 3.486 min Scan# 369
Delta R.T. 0.000 min
Lab File: 3d146928.d
Acq: 23 Apr 2019 11:06 am

Tgt Ion: 63 Resp: 11461

Ion	Ratio	Lower	Upper
63	100		
65	33.3	1.5	61.5
83	13.4	0.0	43.7

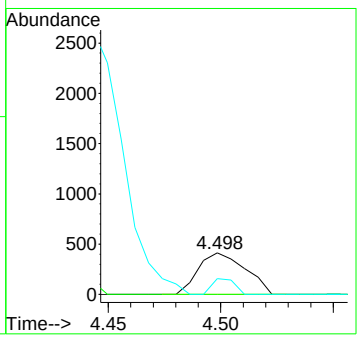


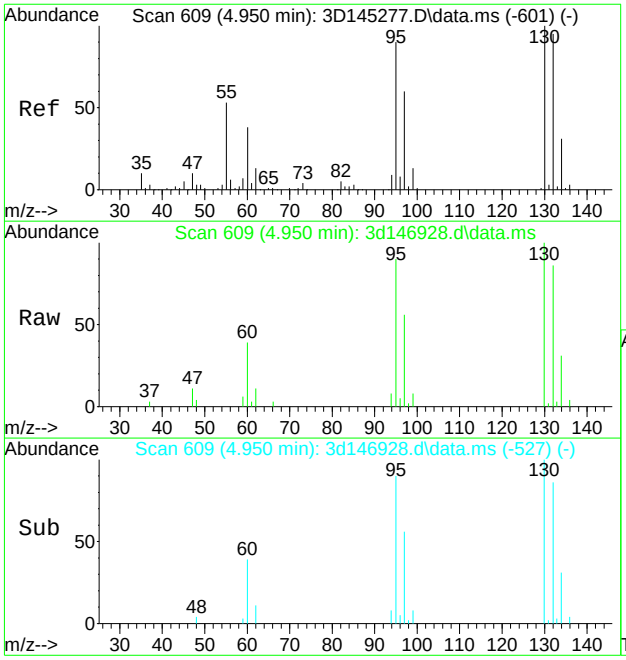


#60
1,2-dichloroethane
Concen: 0.20 ug/L
RT: 4.498 min Scan# 535
Delta R.T. 0.000 min
Lab File: 3d146928.d
Acq: 23 Apr 2019 11:06 am

Tgt Ion: 62 Resp: 604

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	40.6
49	38.2	0.0	59.7

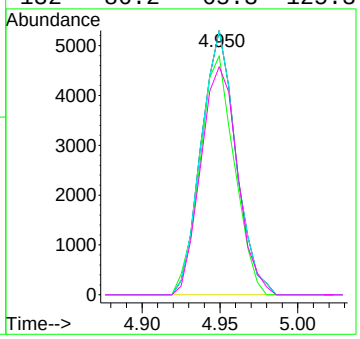


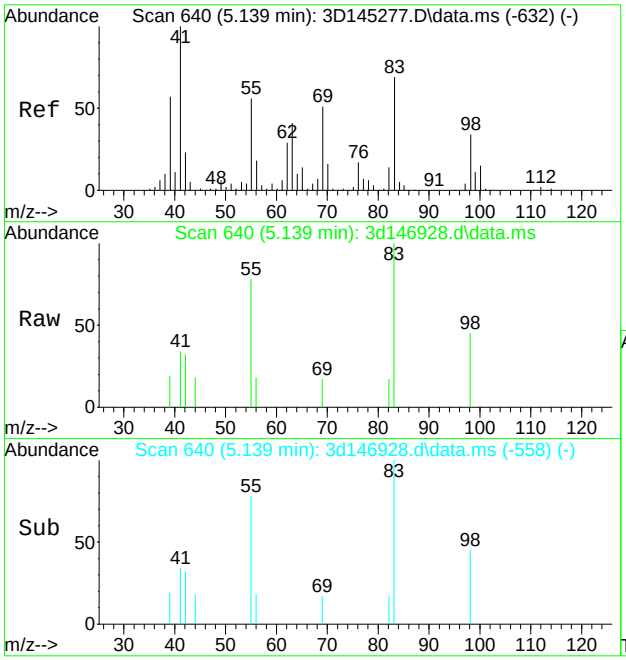


#61
trichloroethene
Concen: 3.43 ug/L
RT: 4.950 min Scan# 609
Delta R.T. 0.000 min
Lab File: 3d146928.d
Acq: 23 Apr 2019 11:06 am

Tgt Ion:130 Resp: 8194

Ion	Ratio	Lower	Upper
130	100		
95	90.4	60.4	120.4
130	100.0	70.0	130.0
132	86.2	65.3	125.3

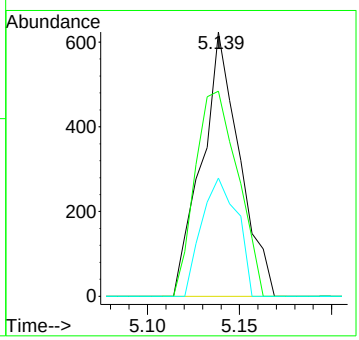


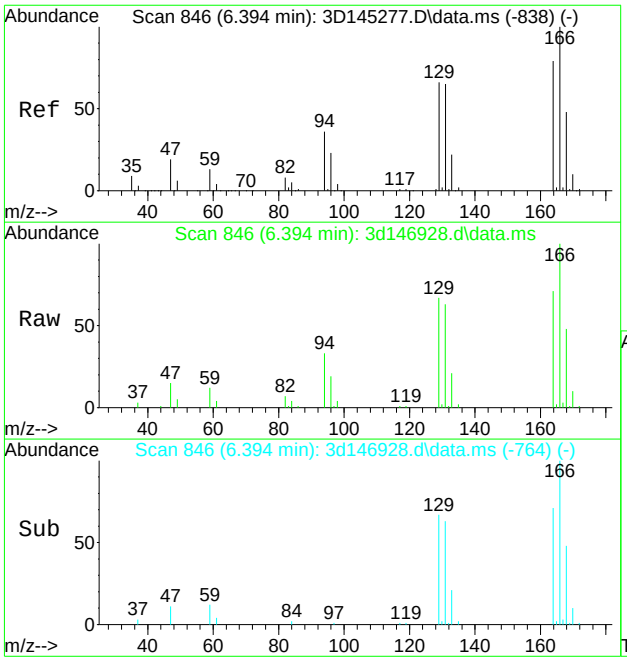


#68
methylcyclohexane
Concen: 0.24 ug/L
RT: 5.139 min Scan# 640
Delta R.T. 0.001 min
Lab File: 3d146928.d
Acq: 23 Apr 2019 11:06 am

Tgt Ion: 83 Resp: 891

Ion	Ratio	Lower	Upper
83	100		
55	77.6	51.3	111.3
98	44.7	19.5	79.5

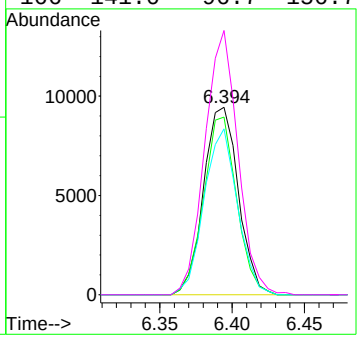




#80
tetrachloroethene
Concen: 7.71 ug/L
RT: 6.394 min Scan# 846
Delta R.T. 0.000 min
Lab File: 3d146928.d
Acq: 23 Apr 2019 11:06 am

Tgt Ion:164 Resp: 15807

Ion	Ratio	Lower	Upper
164	100		
129	94.8	54.1	114.1
131	88.5	52.5	112.5
166	141.0	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146929.d
Acq On : 23 Apr 2019 11:31 am
Operator : JessicaP
Sample : JC86512-7 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 14:31:20 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

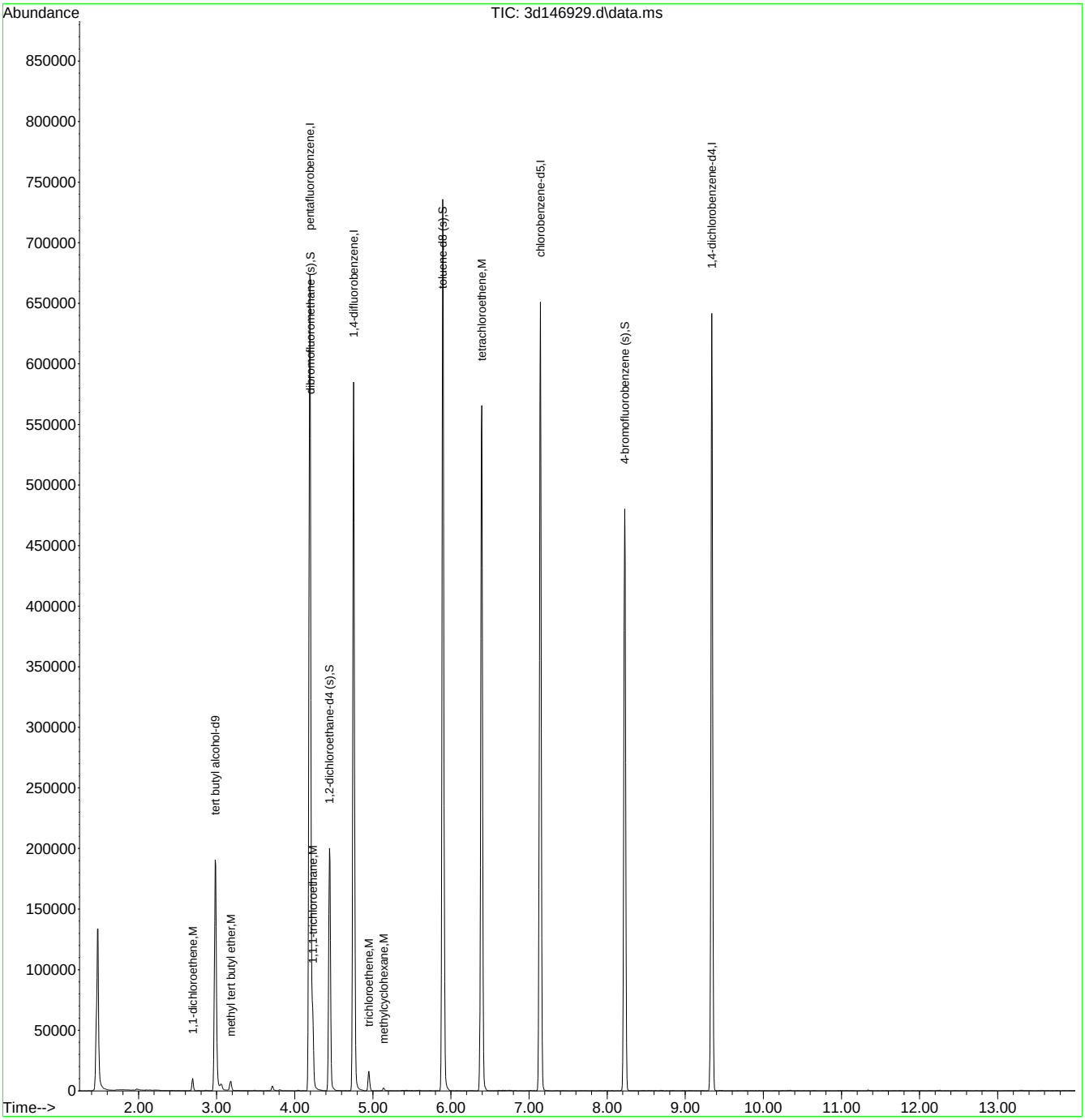
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	195871	500.00	ug/L	0.00
5) pentafluorobenzene	4.193	168	294689	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	407521	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	353435	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	171458	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	102943	49.16	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.32%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	110177	48.15	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 96.30%			
75) toluene-d8 (s)	5.894	98	454485	50.63	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.26%			
99) 4-bromofluorobenzene (s)	8.223	95	155775	48.12	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.24%			
Target Compounds						Qvalue
18) 1,1-dichloroethene	2.694	96	2961	1.51	ug/L	98
25) methyl tert butyl ether	3.181	73	6577	1.01	ug/L	96
46) 1,1,1-trichloroethane	4.230	97	32580	9.83	ug/L	95
61) trichloroethene	4.949	130	5276	2.23	ug/L	93
68) methylcyclohexane	5.138	83	1030	0.28	ug/L	87
80) tetrachloroethene	6.394	164	138457	68.95	ug/L	99

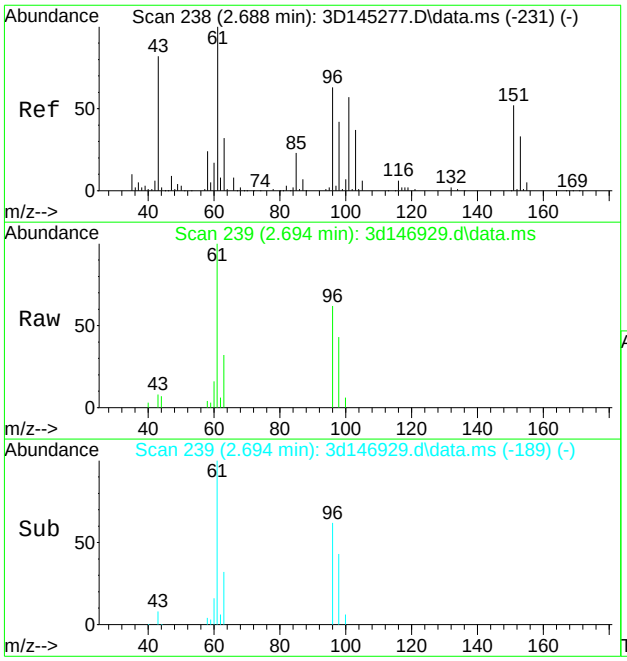
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146929.d
Acq On : 23 Apr 2019 11:31 am
Operator : JessicaP
Sample : JC86512-7 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 14:31:20 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

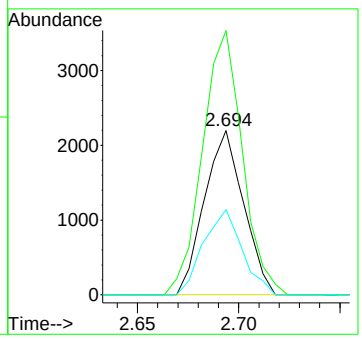


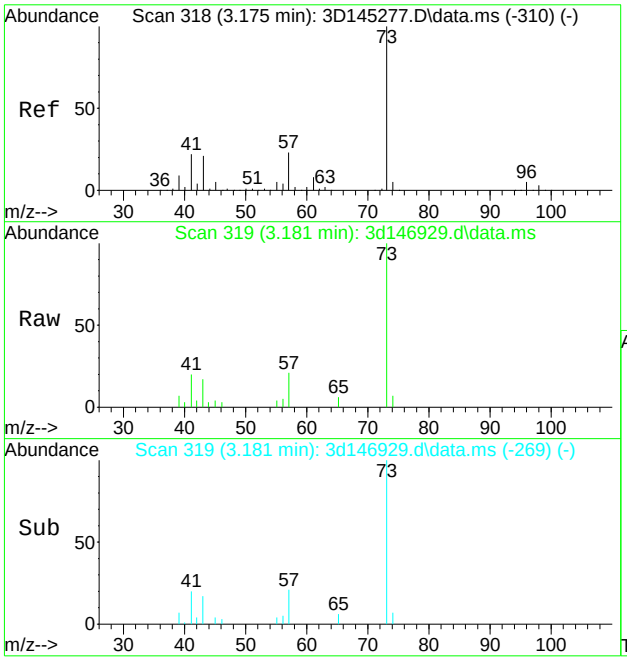


#18
1,1-dichloroethene
Concen: 1.51 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.006 min
Lab File: 3d146929.d
Acq: 23 Apr 2019 11:31 am

Tgt Ion: 96 Resp: 2961

Ion	Ratio	Lower	Upper
96	100		
61	161.0	127.6	187.6
63	51.9	21.0	81.0

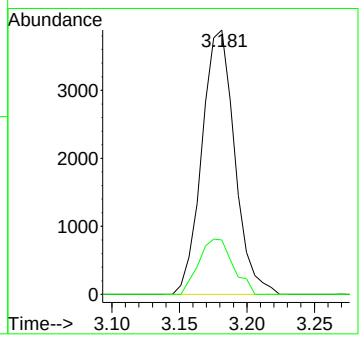


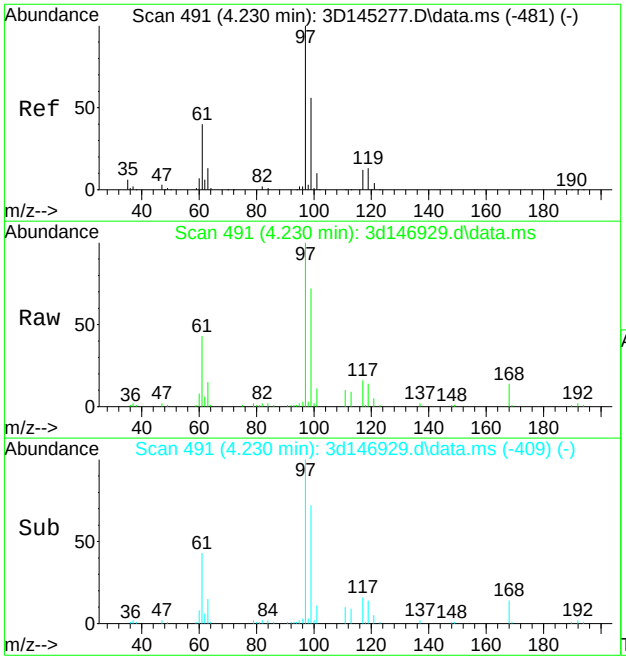


#25
methyl tert butyl ether
Concen: 1.01 ug/L
RT: 3.181 min Scan# 319
Delta R.T. 0.006 min
Lab File: 3d146929.d
Acq: 23 Apr 2019 11:31 am

Tgt Ion: 73 Resp: 6577

Ion	Ratio	Lower	Upper
73	100		
57	20.5	0.0	222.6

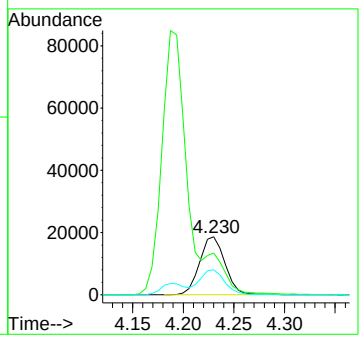


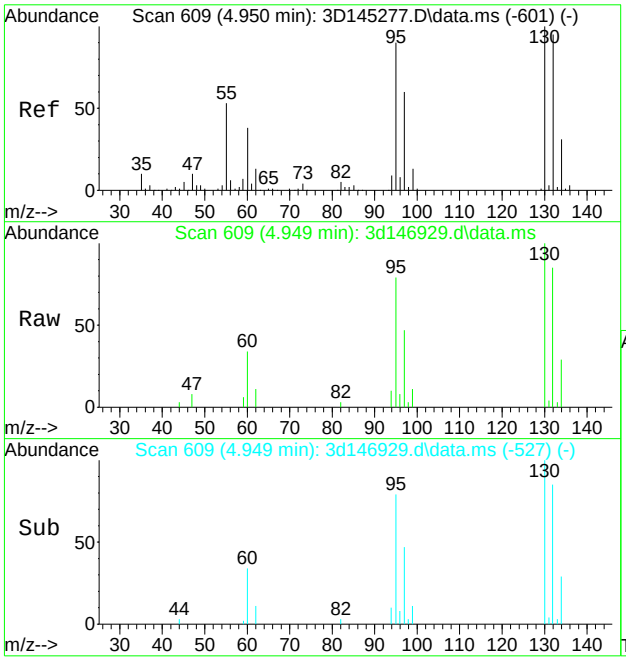


#46
1,1,1-trichloroethane
Concen: 9.83 ug/L
RT: 4.230 min Scan# 491
Delta R.T. -0.000 min
Lab File: 3d146929.d
Acq: 23 Apr 2019 11:31 am

Tgt Ion: 97 Resp: 32580

Ion	Ratio	Lower	Upper
97	100		
99	70.4	35.7	95.7
61	43.0	10.4	70.4

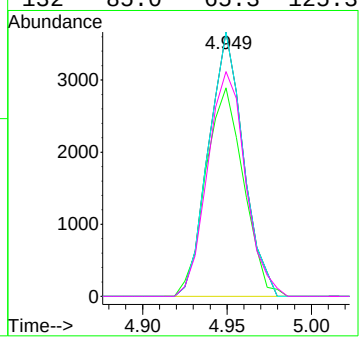


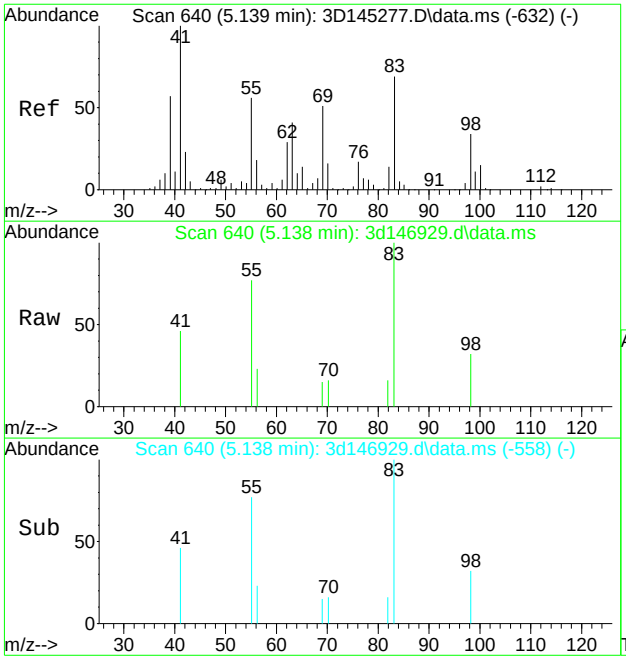


#61
trichloroethene
Concen: 2.23 ug/L
RT: 4.949 min Scan# 609
Delta R.T. -0.000 min
Lab File: 3d146929.d
Acq: 23 Apr 2019 11:31 am

Tgt Ion:130 Resp: 5276

Ion	Ratio	Lower	Upper
130	100		
95	78.9	60.4	120.4
130	100.0	70.0	130.0
132	85.0	65.3	125.3

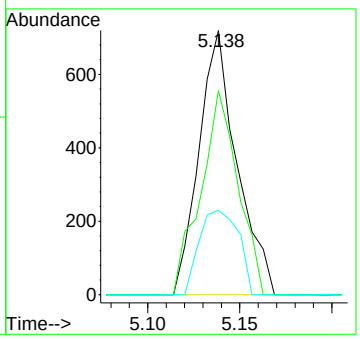


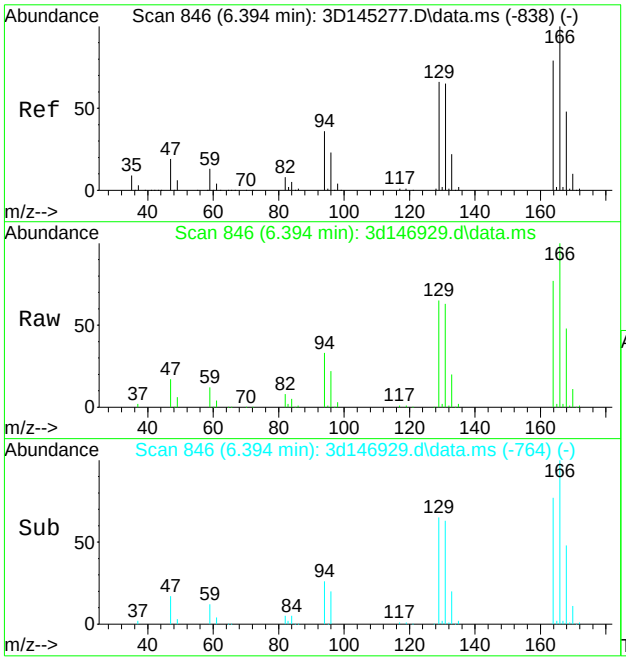


#68
methylcyclohexane
Concen: 0.28 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3d146929.d
Acq: 23 Apr 2019 11:31 am

Tgt Ion: 83 Resp: 1030

Ion	Ratio	Lower	Upper
83	100		
55	77.2	51.3	111.3
98	31.9	19.5	79.5

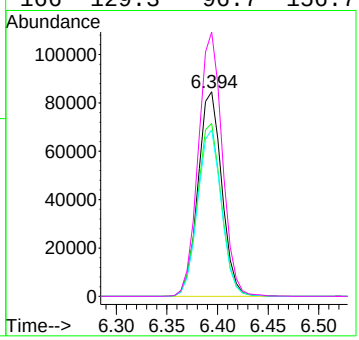




#80
tetrachloroethene
Concen: 68.95 ug/L
RT: 6.394 min Scan# 846
Delta R.T. -0.000 min
Lab File: 3d146929.d
Acq: 23 Apr 2019 11:31 am

Tgt Ion:164 Resp: 138457

Ion	Ratio	Lower	Upper
164	100		
129	84.5	54.1	114.1
131	81.4	52.5	112.5
166	129.3	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146935.D
Acq On : 23 Apr 2019 2:02 pm
Operator : JessicaP
Sample : JC86512-8
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 23 15:28:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

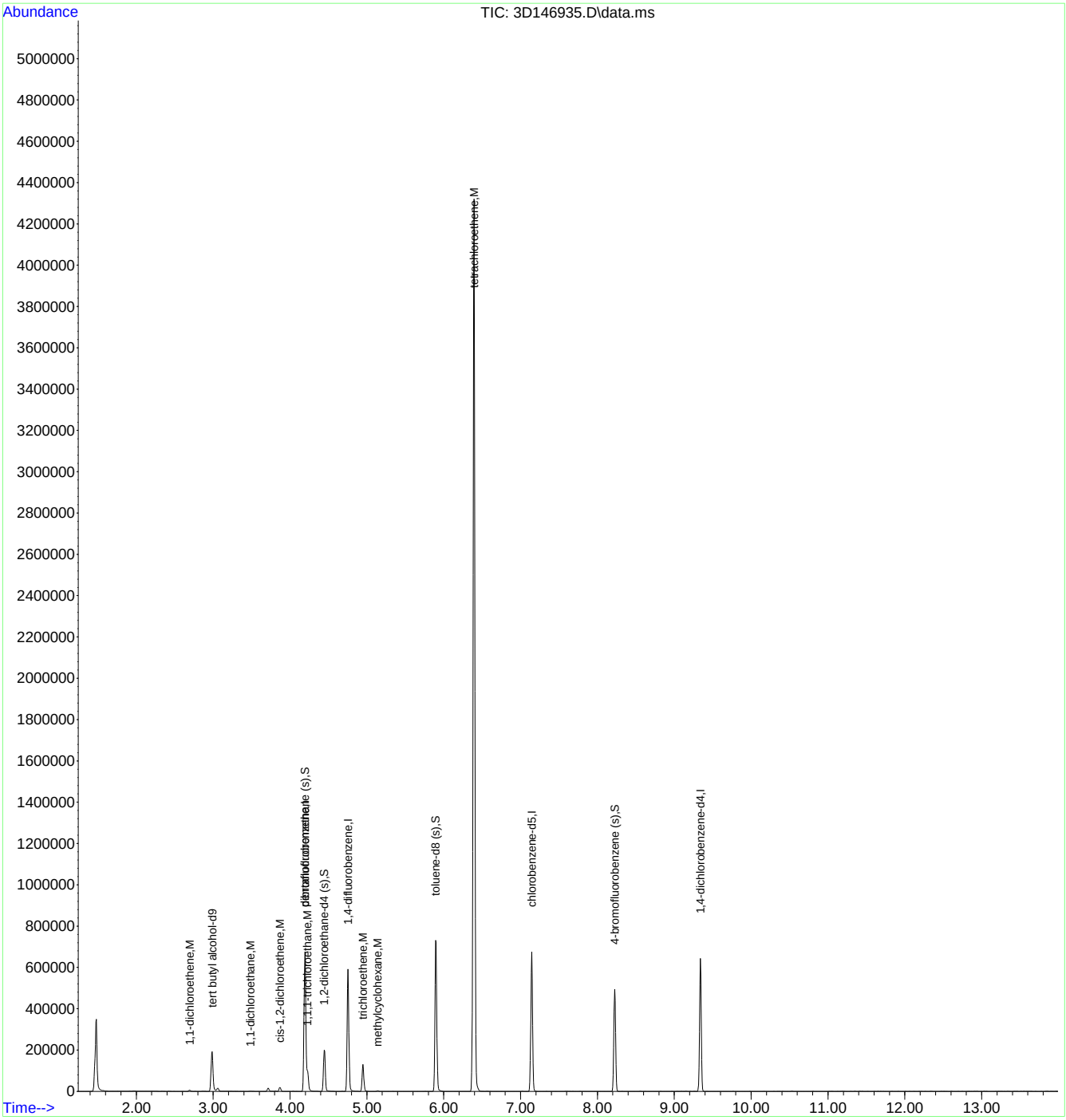
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.986	65	198782	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	293864	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	414238	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	361379	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	173643	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	105463	50.51	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.02%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	111077	47.75	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 95.50%			
75) toluene-d8 (s)	5.901	98	460132	50.13	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.26%			
99) 4-bromofluorobenzene (s)	8.223	95	158425	48.32	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.64%			
Target Compounds						Qvalue
18) 1,1-dichloroethene	2.694	96	1635	0.84	ug/L	98
29) 1,1-dichloroethane	3.486	63	1084	0.29	ug/L	99
37) cis-1,2-dichloroethene	3.870	96	7214	3.06	ug/L	95
46) 1,1,1-trichloroethane	4.230	97	48804	14.76	ug/L	96
61) trichloroethene	4.949	130	40004	16.66	ug/L	99
68) methylcyclohexane	5.138	83	921	0.24	ug/L	89
80) tetrachloroethene	6.394	164	1024842	499.14	ug/L	99

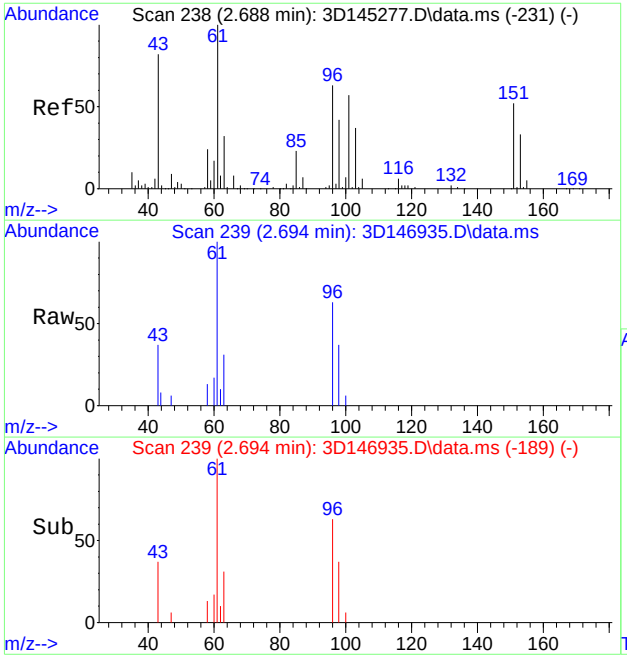
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146935.D
Acq On : 23 Apr 2019 2:02 pm
Operator : JessicaP
Sample : JC86512-8
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 23 15:28:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

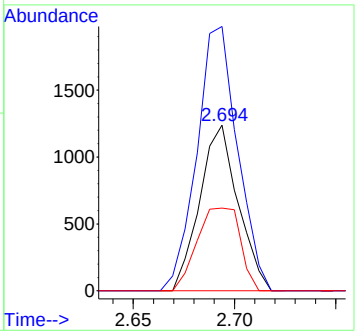


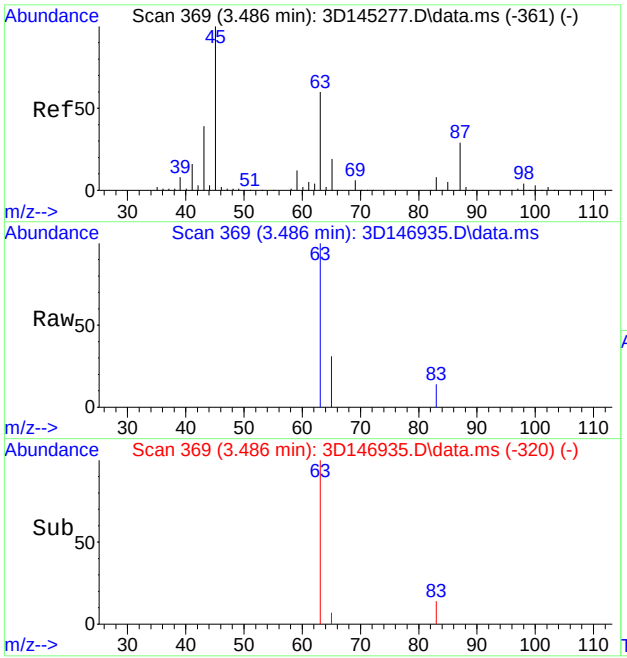


#18
1,1-dichloroethene
Concen: 0.84 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.006 min
Lab File: 3D146935.D
Acq: 23 Apr 2019 2:02 pm

Tgt Ion: 96 Resp: 1635

Ion	Ratio	Lower	Upper
96	100		
61	159.7	127.6	187.6
63	50.0	21.0	81.0

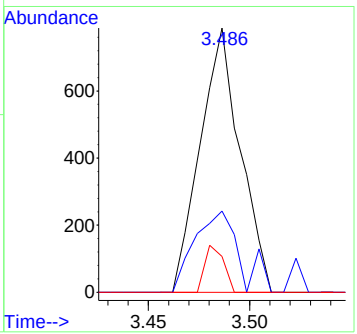


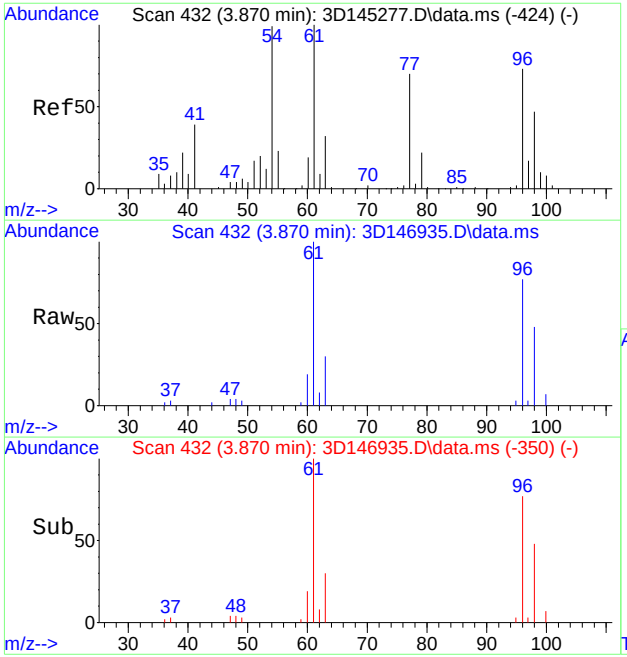


#29
1,1-dichloroethane
Concen: 0.29 ug/L
RT: 3.486 min Scan# 369
Delta R.T. -0.000 min
Lab File: 3D146935.D
Acq: 23 Apr 2019 2:02 pm

Tgt Ion: 63 Resp: 1084

Ion	Ratio	Lower	Upper
63	100		
65	30.7	1.5	61.5
83	13.6	0.0	43.7

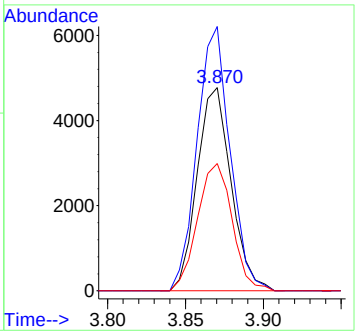


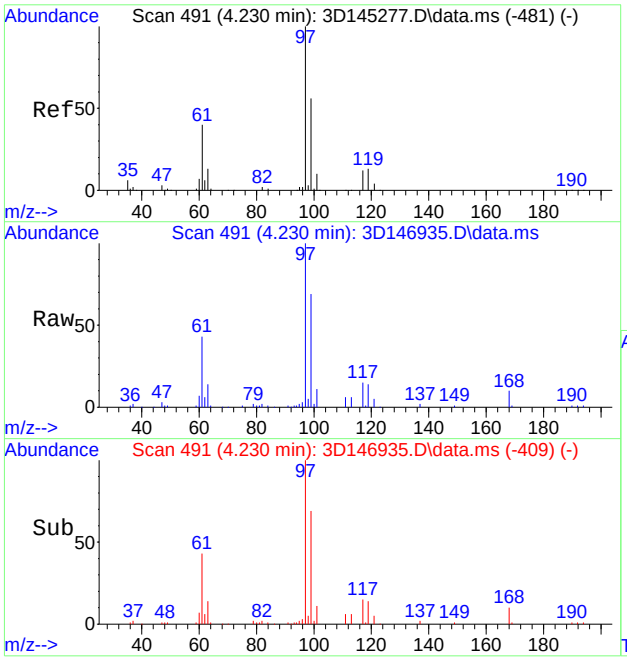


#37
cis-1,2-dichloroethene
Concen: 3.06 ug/L
RT: 3.870 min Scan# 432
Delta R.T. -0.000 min
Lab File: 3D146935.D
Acq: 23 Apr 2019 2:02 pm

Tgt Ion: 96 Resp: 7214

Ion	Ratio	Lower	Upper
96	100		
61	130.1	107.5	167.5
98	62.7	35.2	95.2

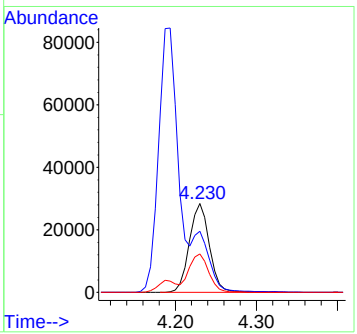


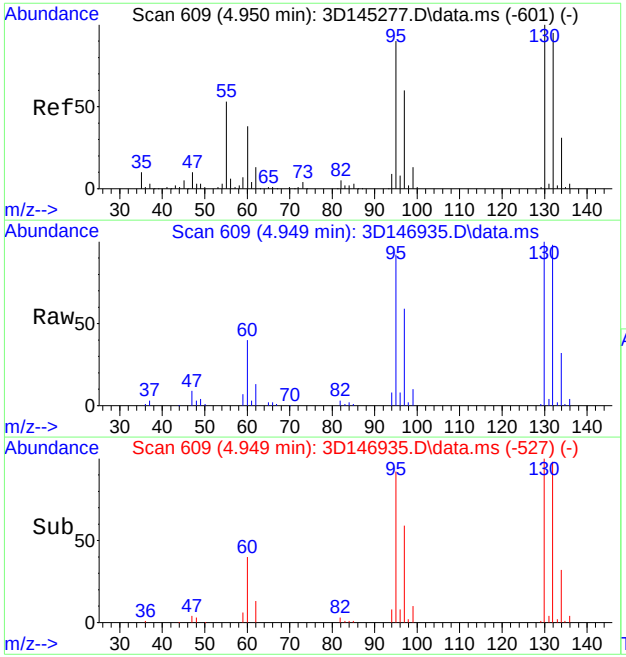


#46
1,1,1-trichloroethane
Concen: 14.76 ug/L
RT: 4.230 min Scan# 491
Delta R.T. -0.000 min
Lab File: 3D146935.D
Acq: 23 Apr 2019 2:02 pm

Tgt Ion: 97 Resp: 48804

Ion	Ratio	Lower	Upper
97	100		
99	68.3	35.7	95.7
61	43.2	10.4	70.4

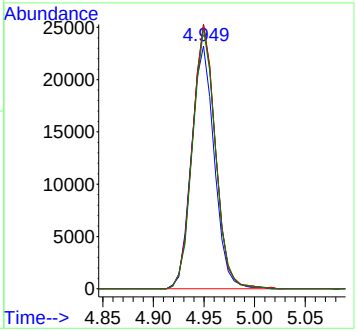


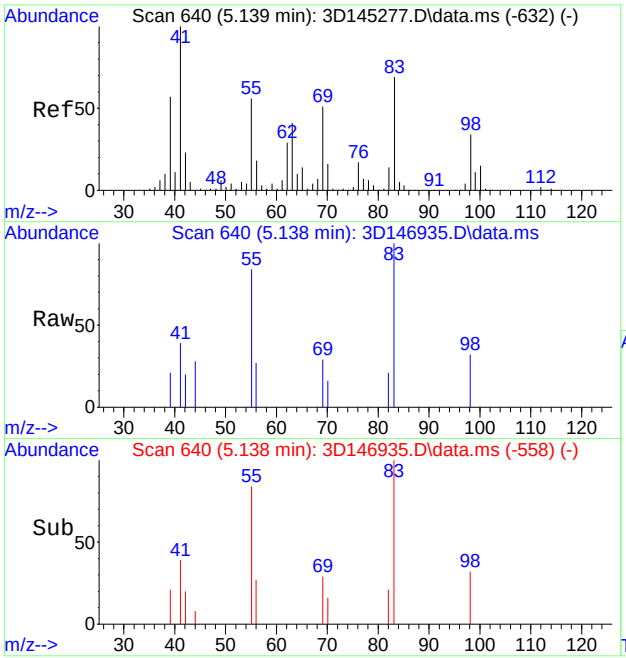


#61
trichloroethene
Concen: 16.66 ug/L
RT: 4.949 min Scan# 609
Delta R.T. -0.000 min
Lab File: 3D146935.D
Acq: 23 Apr 2019 2:02 pm

Tgt Ion:130 Resp: 40004

Ion	Ratio	Lower	Upper
130	100		
95	91.7	60.4	120.4
130	100.0	70.0	130.0
132	98.1	65.3	125.3

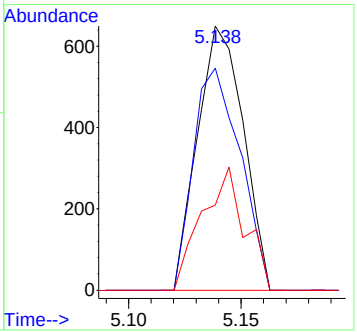


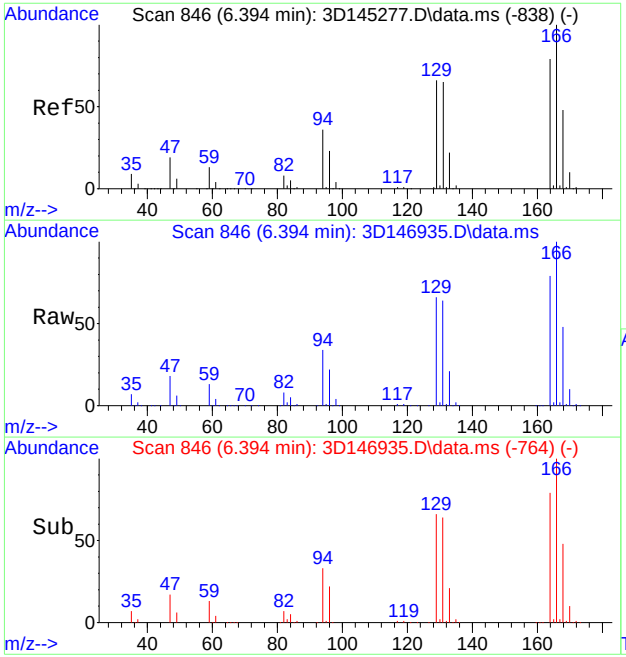


#68
methylcyclohexane
Concen: 0.24 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3D146935.D
Acq: 23 Apr 2019 2:02 pm

Tgt Ion: 83 Resp: 921

Ion	Ratio	Lower	Upper
83	100		
55	84.0	51.3	111.3
98	32.2	19.5	79.5

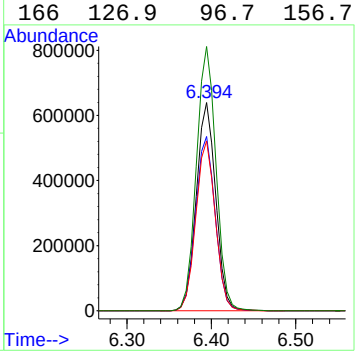




#80
tetrachloroethene
Concen: 499.14 ug/L
RT: 6.394 min Scan# 846
Delta R.T. -0.000 min
Lab File: 3D146935.D
Acq: 23 Apr 2019 2:02 pm

Tgt Ion:164 Resp: 1024842

Ion	Ratio	Lower	Upper
164	100		
129	83.7	54.1	114.1
131	81.6	52.5	112.5
166	126.9	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146936.D
Acq On : 23 Apr 2019 2:27 pm
Operator : JessicaP
Sample : JC86512-8
Misc : MS34076,V3D6281,5,,,,10
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 23 15:17:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

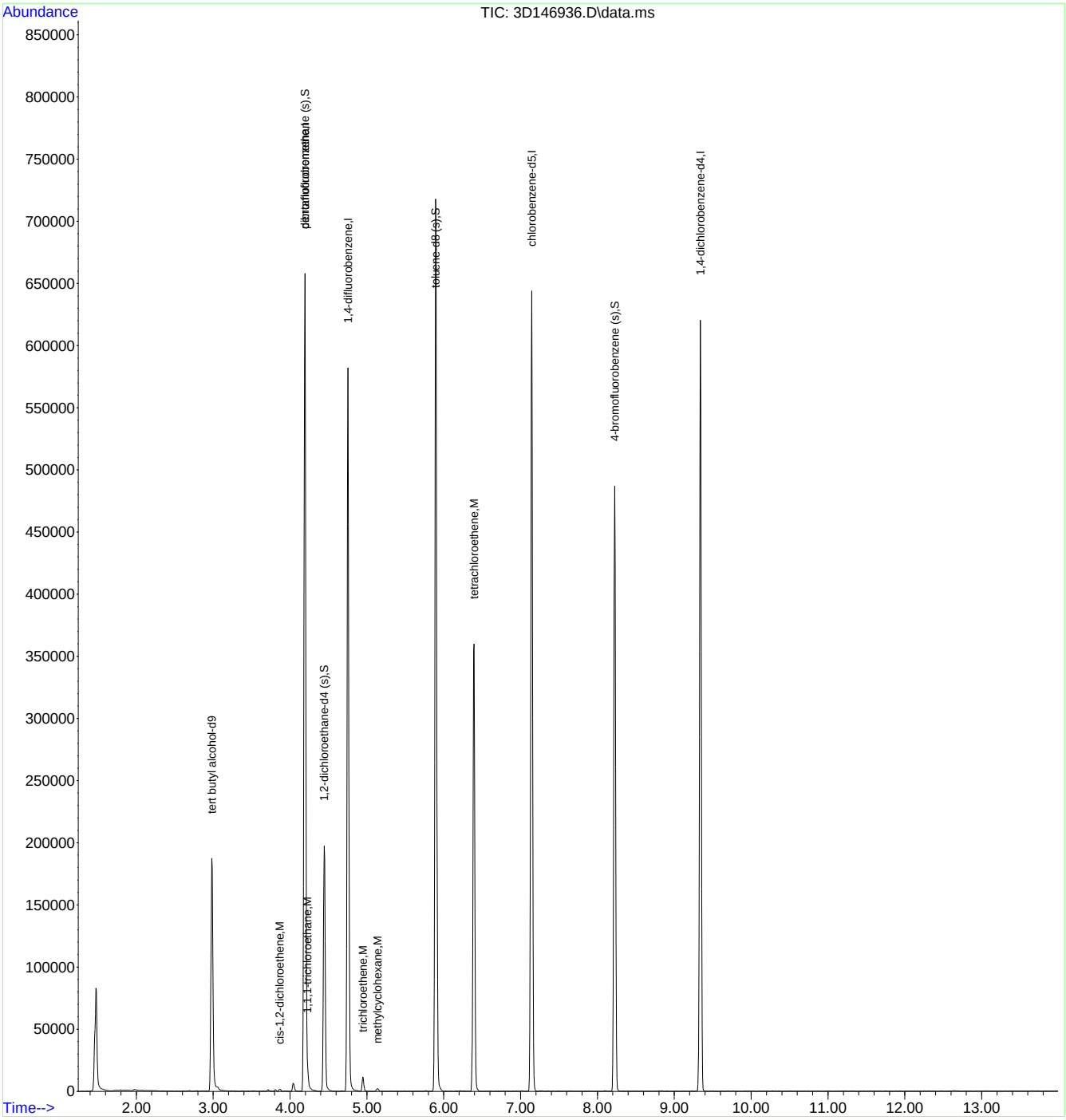
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.980	65	192244	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	291100	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	402437	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	354625	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	171587	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	102623	49.61	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.22%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	106949	47.33	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 94.66%			
75) toluene-d8 (s)	5.894	98	449116	49.86	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.72%			
99) 4-bromofluorobenzene (s)	8.223	95	154561	47.71	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 95.42%			
Target Compounds						Qvalue
37) cis-1,2-dichloroethene	3.864	96	684	0.29	ug/L	94
46) 1,1,1-trichloroethane	4.230	97	4382	1.34	ug/L	86
61) trichloroethene	4.950	130	3701	1.59	ug/L	96
68) methylcyclohexane	5.139	83	924	0.25	ug/L	92
80) tetrachloroethene	6.394	164	88476	43.91	ug/L	98

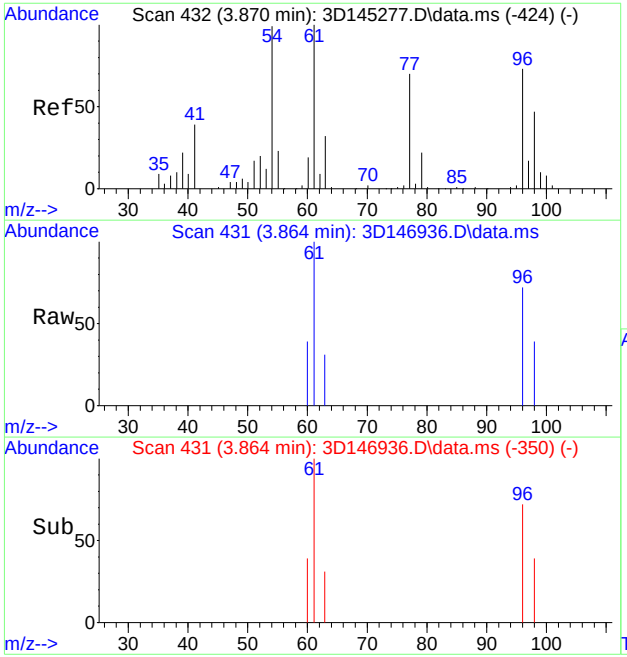
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146936.D
Acq On : 23 Apr 2019 2:27 pm
Operator : JessicaP
Sample : JC86512-8
Misc : MS34076,V3D6281,5,,,,10
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 23 15:17:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

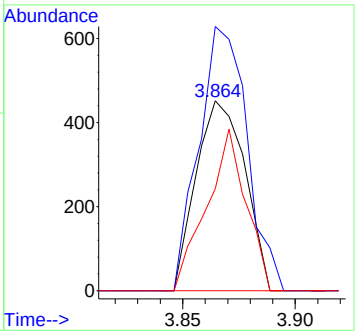


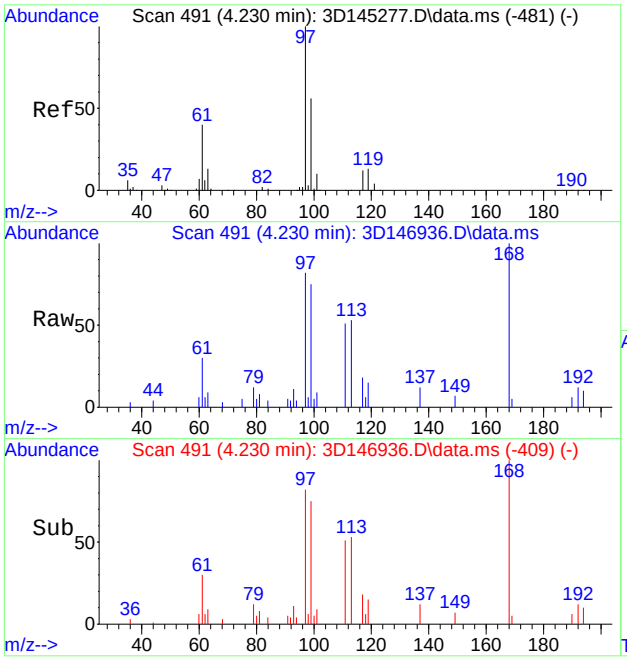


#37
cis-1,2-dichloroethene
Concen: 0.29 ug/L
RT: 3.864 min Scan# 431
Delta R.T. -0.006 min
Lab File: 3D146936.D
Acq: 23 Apr 2019 2:27 pm

Tgt Ion: 96 Resp: 684

Ion	Ratio	Lower	Upper
96	100		
61	139.2	107.5	167.5
98	53.8	35.2	95.2

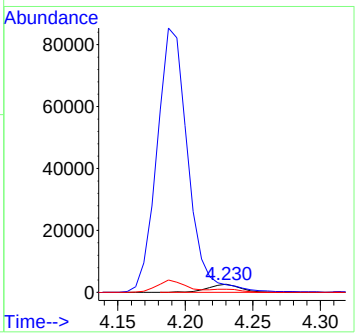


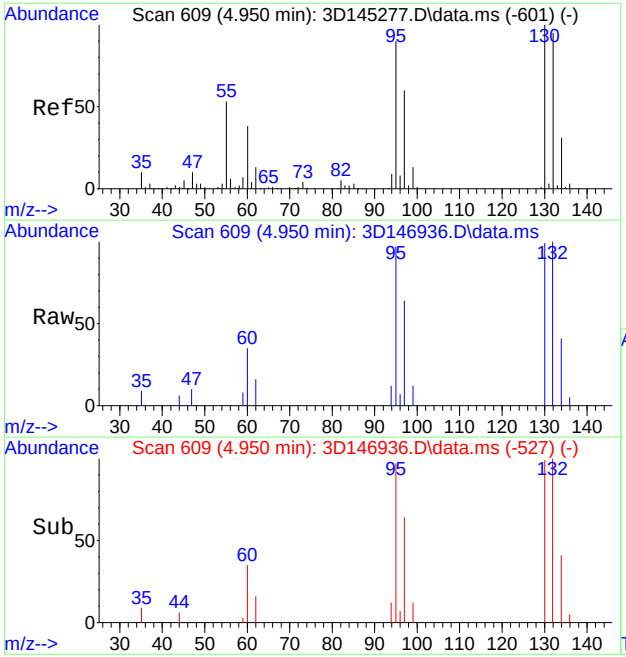


#46
1,1,1-trichloroethane
Concen: 1.34 ug/L
RT: 4.230 min Scan# 491
Delta R.T. 0.000 min
Lab File: 3D146936.D
Acq: 23 Apr 2019 2:27 pm

Tgt Ion: 97 Resp: 4382

Ion	Ratio	Lower	Upper
97	100		
99	80.4	35.7	95.7
61	37.0	10.4	70.4

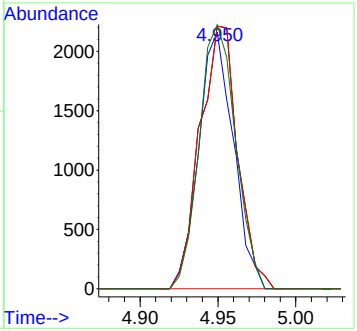


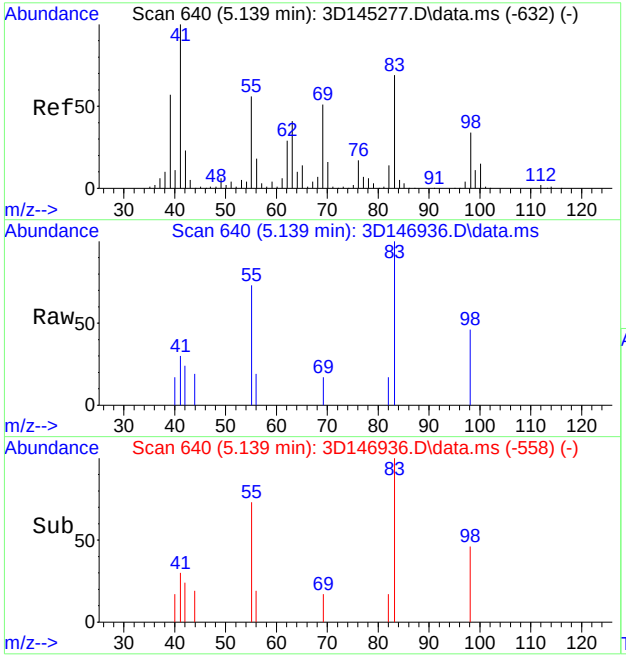


#61
trichloroethene
Concen: 1.59 ug/L
RT: 4.950 min Scan# 609
Delta R.T. 0.000 min
Lab File: 3D146936.D
Acq: 23 Apr 2019 2:27 pm

Tgt Ion:130 Resp: 3701

Ion	Ratio	Lower	Upper
130	100		
95	97.7	60.4	120.4
130	100.0	70.0	130.0
132	100.7	65.3	125.3

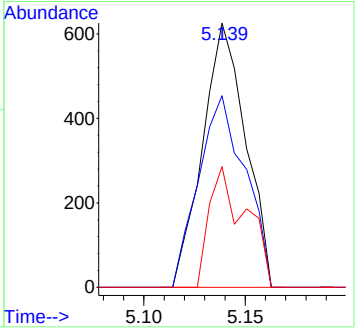


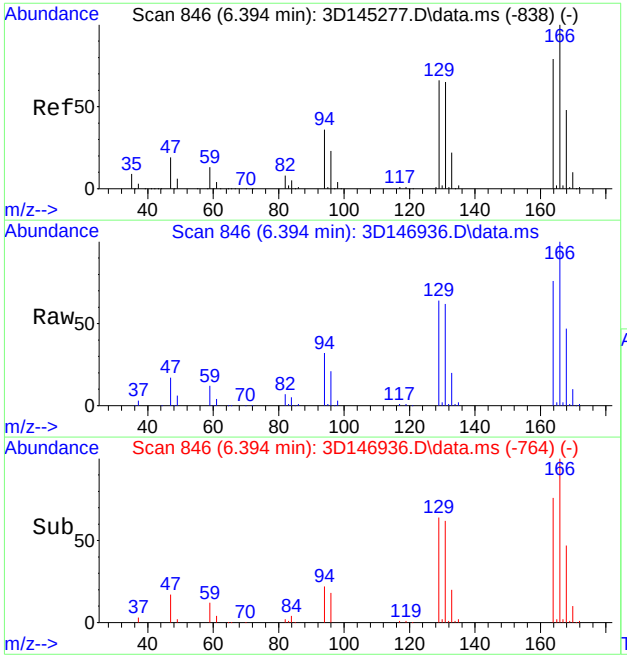


#68
methylcyclohexane
Concen: 0.25 ug/L
RT: 5.139 min Scan# 640
Delta R.T. 0.001 min
Lab File: 3D146936.D
Acq: 23 Apr 2019 2:27 pm

Tgt Ion: 83 Resp: 924

Ion	Ratio	Lower	Upper
83	100		
55	72.5	51.3	111.3
98	45.7	19.5	79.5

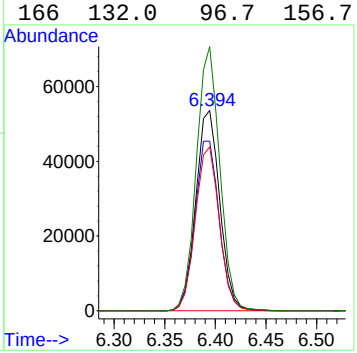




#80
tetrachloroethene
Concen: 43.91 ug/L
RT: 6.394 min Scan# 846
Delta R.T. 0.000 min
Lab File: 3D146936.D
Acq: 23 Apr 2019 2:27 pm

Tgt Ion:164 Resp: 88476

Ion	Ratio	Lower	Upper
164	100		
129	84.6	54.1	114.1
131	81.8	52.5	112.5
166	132.0	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146930.D
Acq On : 23 Apr 2019 11:56 am
Operator : JessicaP
Sample : JC86512-9
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 23 13:58:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

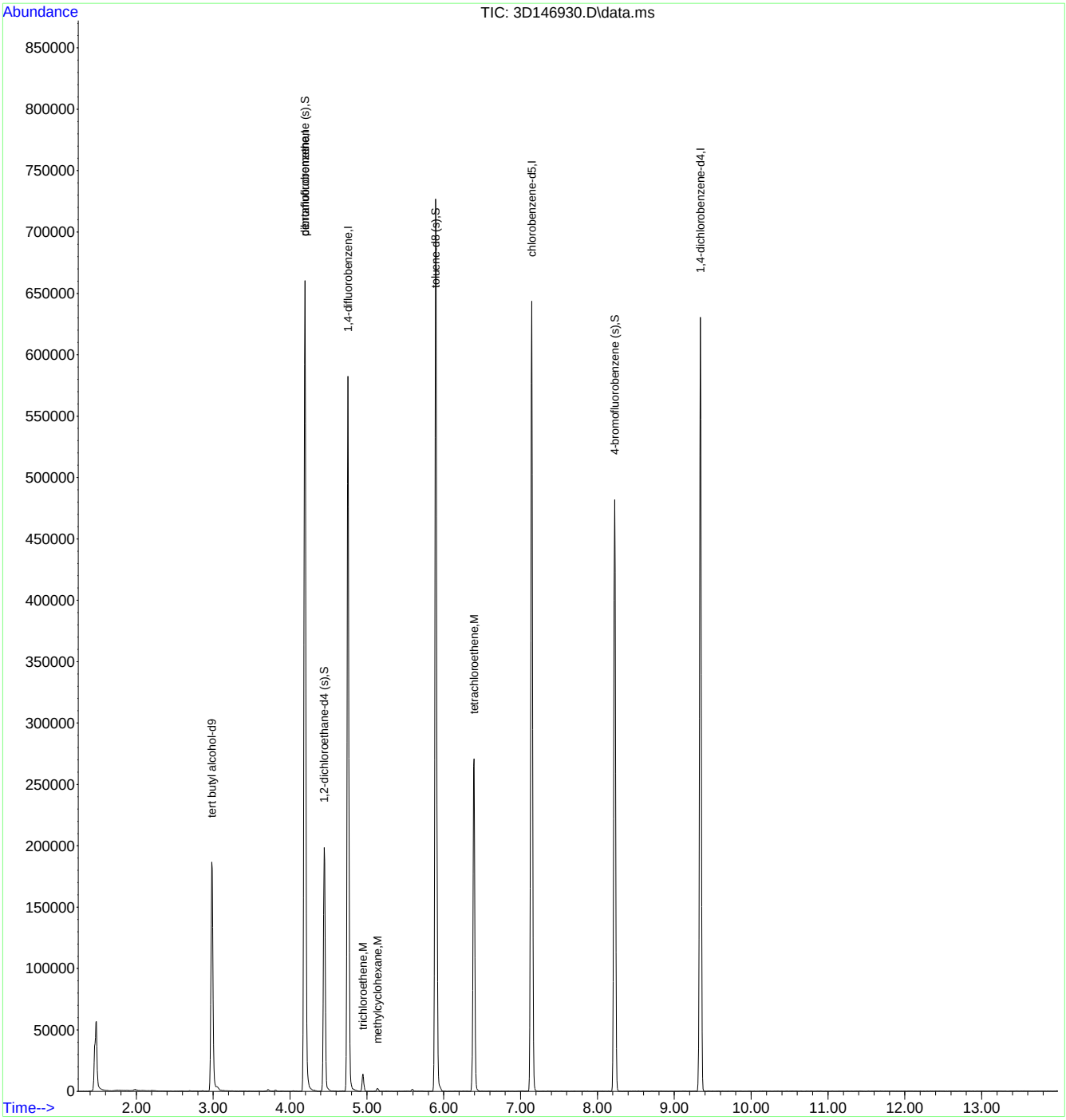
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.980	65	189827	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	293850	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	406059	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	351873	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	170224	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	103383	49.51	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.02%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	109951	48.22	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 96.44%			
75) toluene-d8 (s)	5.895	98	451504	50.52	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.04%			
99) 4-bromofluorobenzene (s)	8.223	95	155063	48.25	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.50%			
Target Compounds						Qvalue
61) trichloroethene	4.950	130	4440	1.89	ug/L	97
68) methylcyclohexane	5.139	83	904	0.24	ug/L	95
80) tetrachloroethene	6.394	164	65809	32.92	ug/L	99

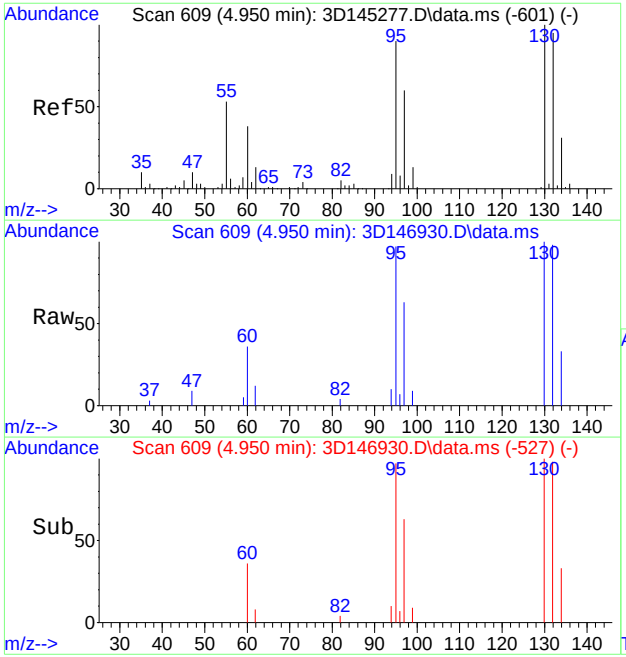
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146930.D
Acq On : 23 Apr 2019 11:56 am
Operator : JessicaP
Sample : JC86512-9
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 23 13:58:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

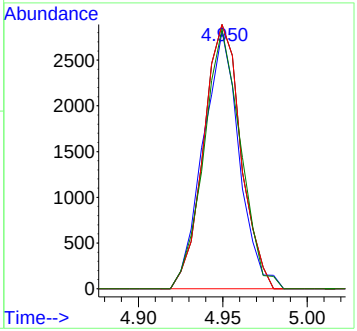


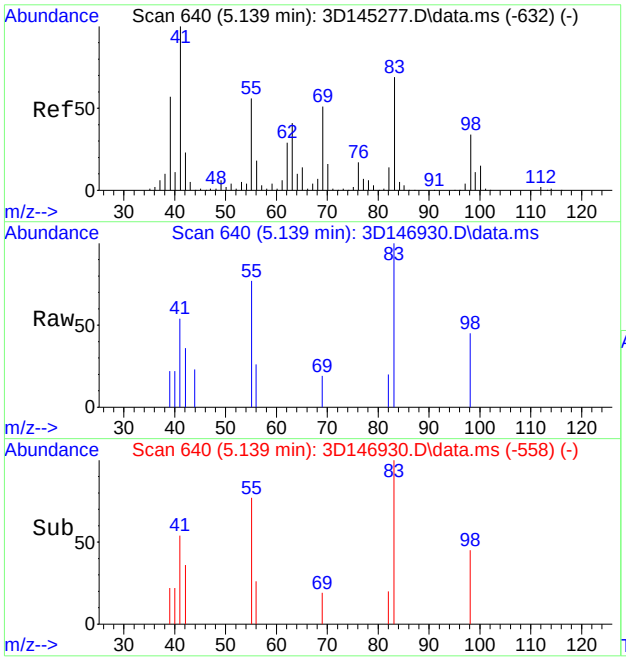


#61
trichloroethene
Concen: 1.89 ug/L
RT: 4.950 min Scan# 609
Delta R.T. 0.000 min
Lab File: 3D146930.D
Acq: 23 Apr 2019 11:56 am

Tgt Ion:130 Resp: 4440

Ion	Ratio	Lower	Upper
130	100		
95	97.4	60.4	120.4
130	100.0	70.0	130.0
132	98.2	65.3	125.3

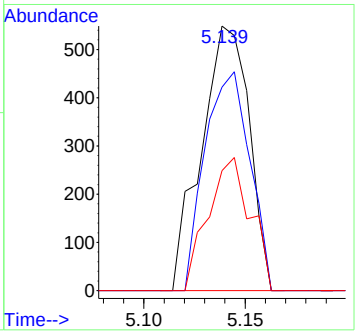


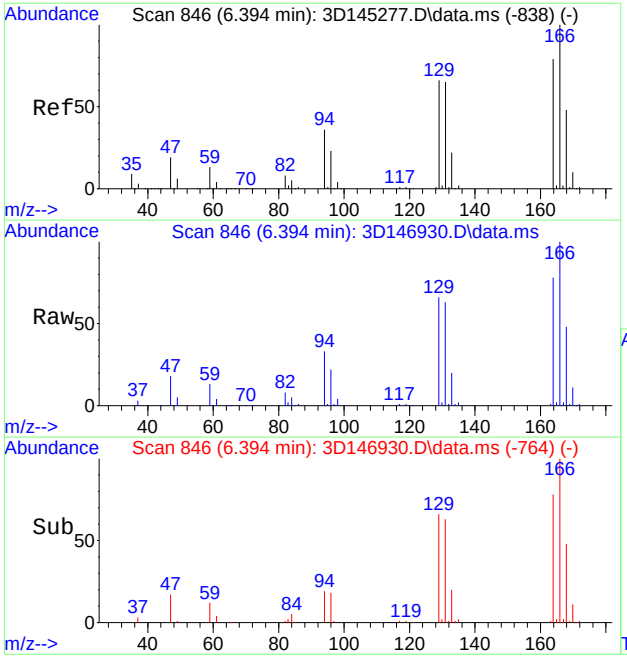


#68
methylcyclohexane
Concen: 0.24 ug/L
RT: 5.139 min Scan# 640
Delta R.T. 0.001 min
Lab File: 3D146930.D
Acq: 23 Apr 2019 11:56 am

Tgt Ion: 83 Resp: 904

Ion	Ratio	Lower	Upper
83	100		
55	76.9	51.3	111.3
98	45.4	19.5	79.5

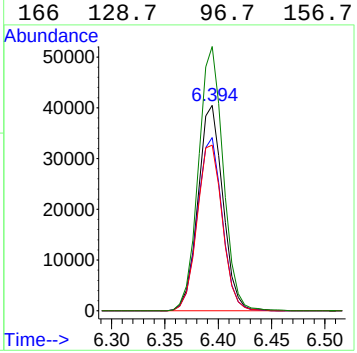




#80
tetrachloroethene
Concen: 32.92 ug/L
RT: 6.394 min Scan# 846
Delta R.T. 0.000 min
Lab File: 3D146930.D
Acq: 23 Apr 2019 11:56 am

Tgt Ion:164 Resp: 65809

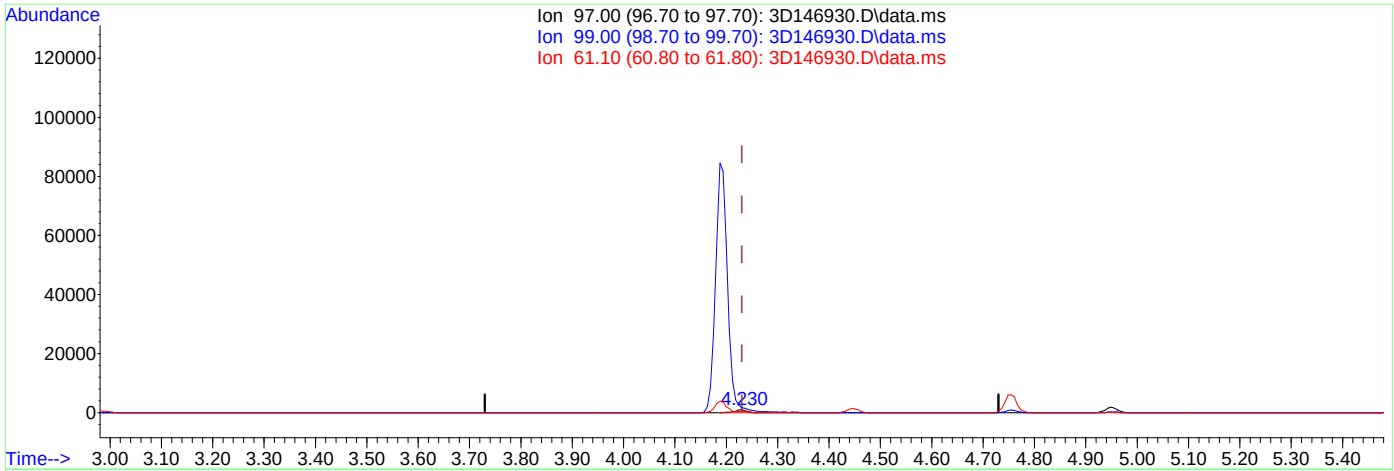
Ion	Ratio	Lower	Upper
164	100		
129	84.3	54.1	114.1
131	80.6	52.5	112.5
166	128.7	96.7	156.7

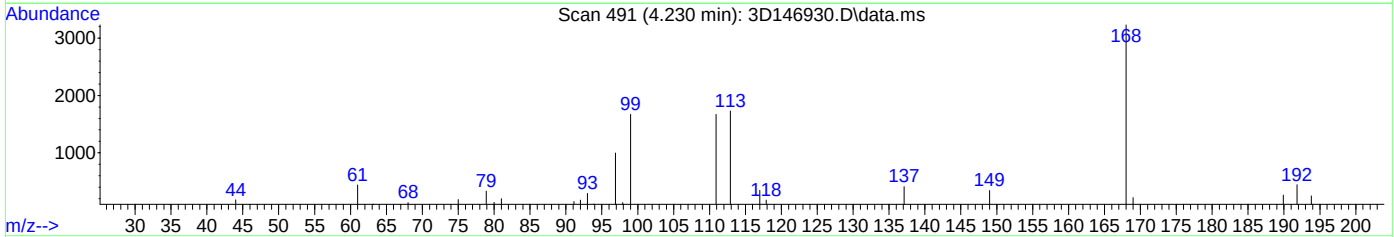


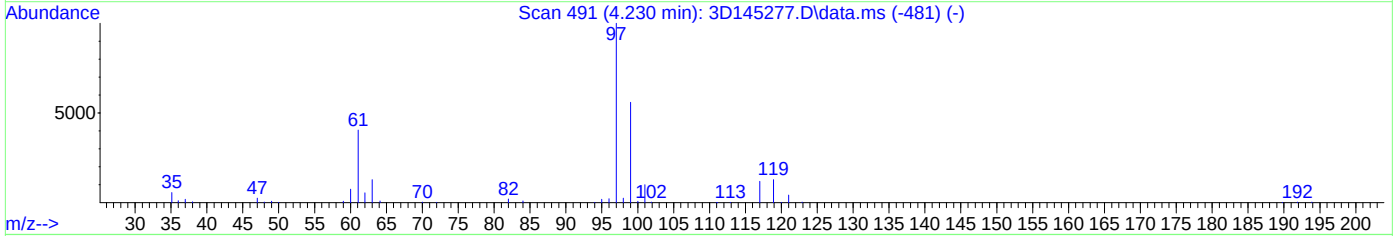
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146930.D
Acq On : 23 Apr 2019 11:56 am
Operator : JessicaP
Sample : JC86512-9
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 23 13:54:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration







TIC: 3D146930.D\data.ms

(46) 1,1,1-trichloroethane (M)

4.230min (+0.000) 0.45ug/L

response 1483

Ion	Exp%	Act%
97.00	100	100
99.00	65.70	120.12#
61.10	40.40	44.14
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146931.D
Acq On : 23 Apr 2019 12:21 pm
Operator : JessicaP
Sample : JC86512-10
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 23 14:00:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

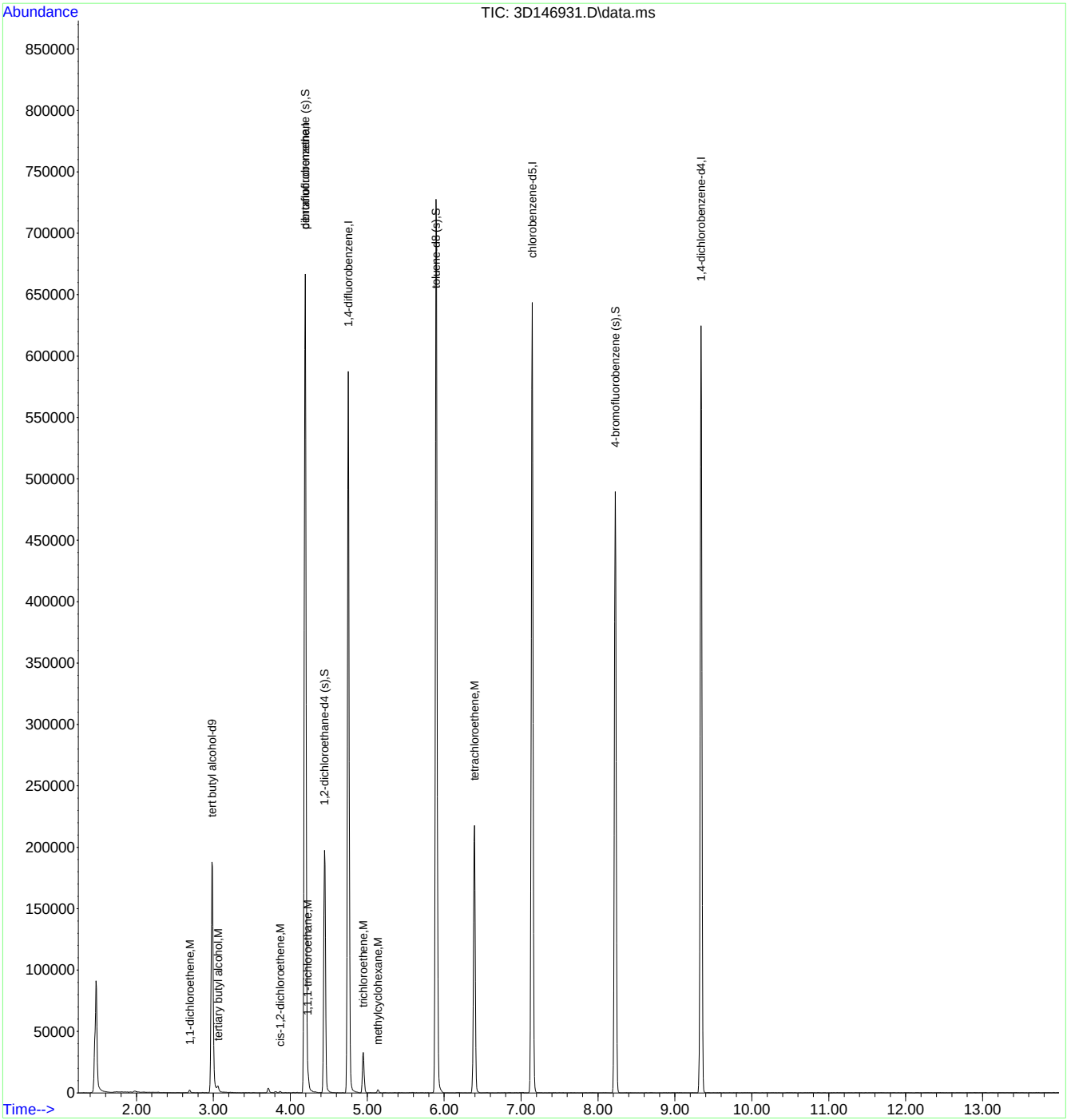
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.980	65	193049	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	295561	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	408600	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	355813	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	169459	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	102413	48.76	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 97.52%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	109024	47.52	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 95.04%			
75) toluene-d8 (s)	5.894	98	451111	49.92	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.84%			
99) 4-bromofluorobenzene (s)	8.223	95	156015	48.76	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 97.52%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.054	59	1897	3.80	ug/L	69
18) 1,1-dichloroethene	2.694	96	592	0.30	ug/L	92
37) cis-1,2-dichloroethene	3.870	96	435	0.18	ug/L	81
46) 1,1,1-trichloroethane	4.230	97	3768	1.13	ug/L #	68
61) trichloroethene	4.950	130	10307	4.35	ug/L	99
68) methylcyclohexane	5.138	83	859	0.23	ug/L	91
80) tetrachloroethene	6.394	164	53104	26.27	ug/L	98

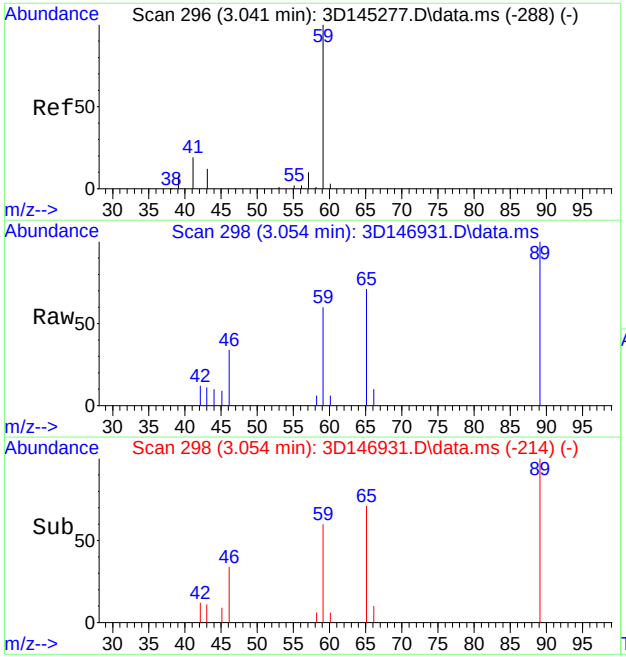
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146931.D
Acq On : 23 Apr 2019 12:21 pm
Operator : JessicaP
Sample : JC86512-10
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 23 14:00:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

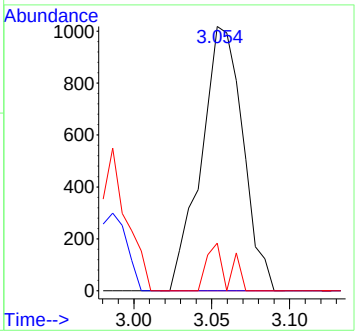


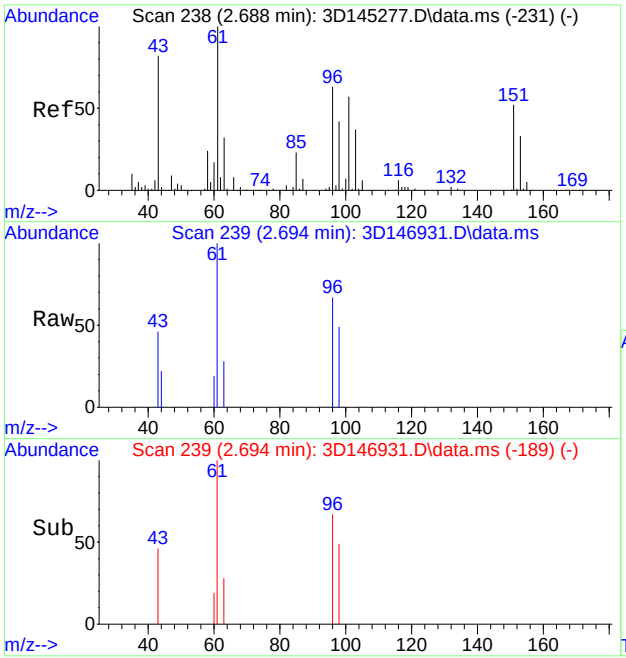


#2
tertiary butyl alcohol
Concen: 3.80 ug/L
RT: 3.054 min Scan# 298
Delta R.T. 0.012 min
Lab File: 3D146931.D
Acq: 23 Apr 2019 12:21 pm

Tgt Ion: 59 Resp: 1897

Ion	Ratio	Lower	Upper
59	100		
41	0.0	0.0	48.9
43	18.0	0.0	42.3

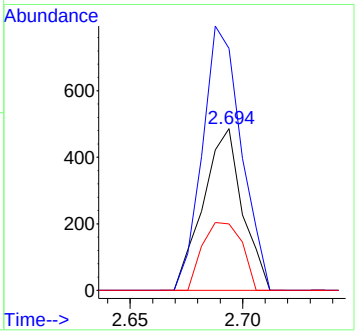


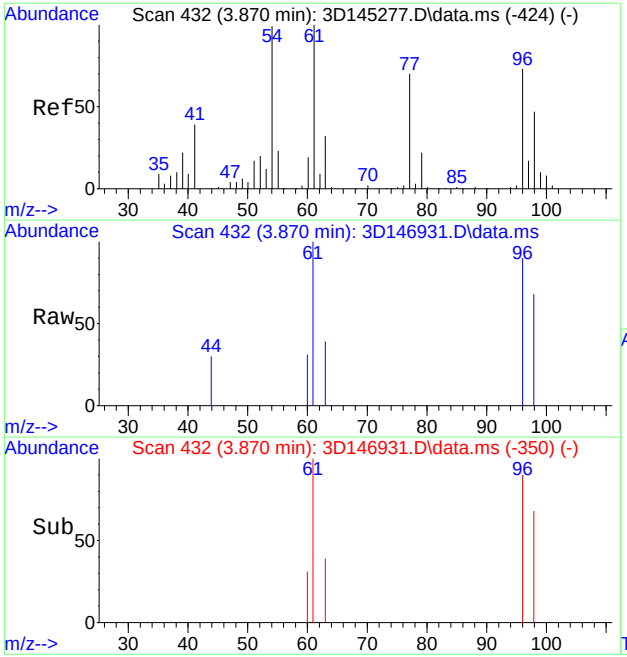


#18
1,1-dichloroethene
Concen: 0.30 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.006 min
Lab File: 3D146931.D
Acq: 23 Apr 2019 12:21 pm

Tgt Ion: 96 Resp: 592

Ion	Ratio	Lower	Upper
96	100		
61	149.6	127.6	187.6
63	41.2	21.0	81.0

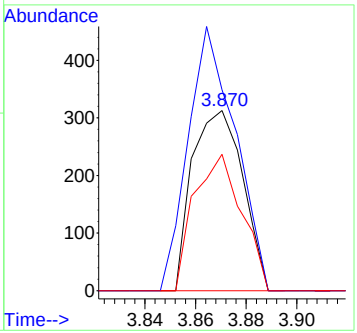


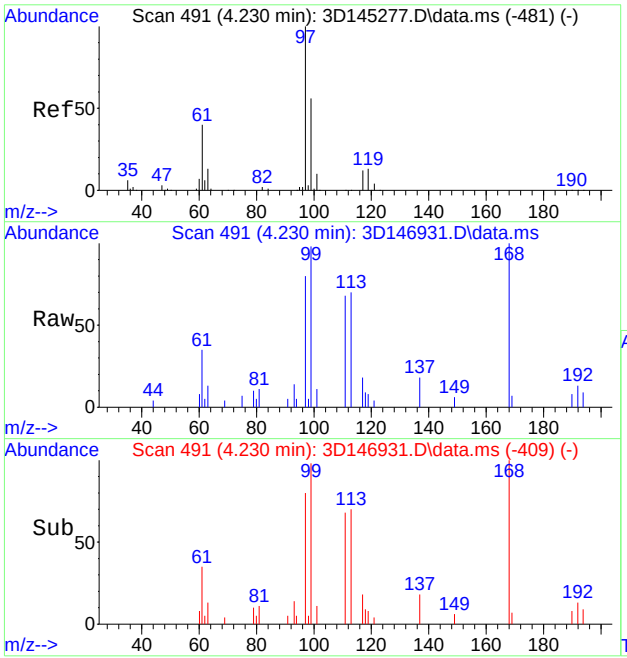


#37
cis-1,2-dichloroethene
Concen: 0.18 ug/L
RT: 3.870 min Scan# 432
Delta R.T. -0.000 min
Lab File: 3D146931.D
Acq: 23 Apr 2019 12:21 pm

Tgt Ion: 96 Resp: 435

Ion	Ratio	Lower	Upper
96	100		
61	111.5	107.5	167.5
98	75.7	35.2	95.2

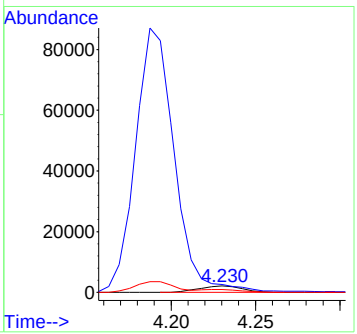


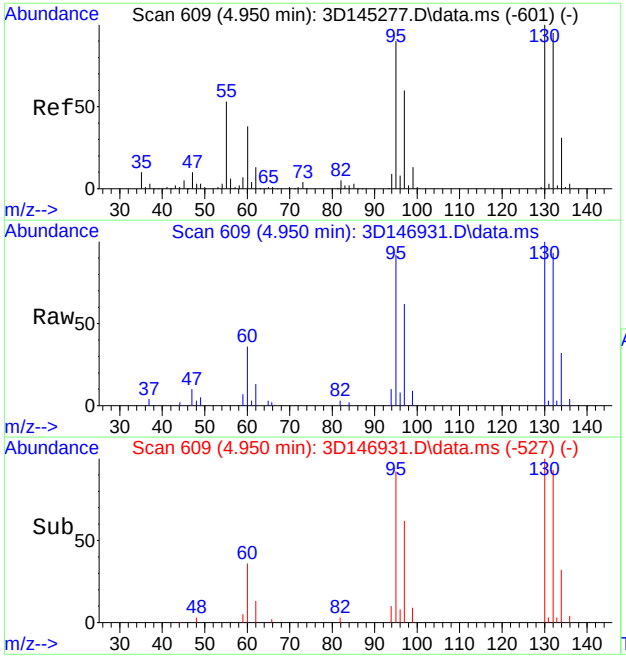


#46
1,1,1-trichloroethane
Concen: 1.13 ug/L
RT: 4.230 min Scan# 491
Delta R.T. -0.000 min
Lab File: 3D146931.D
Acq: 23 Apr 2019 12:21 pm

Tgt Ion: 97 Resp: 3768

Ion	Ratio	Lower	Upper
97	100		
99	103.3	35.7	95.7#
61	44.0	10.4	70.4

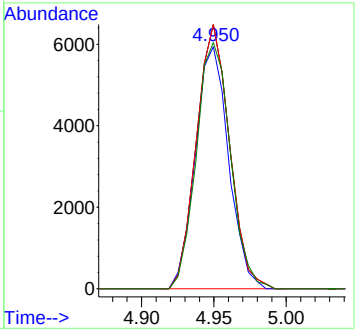


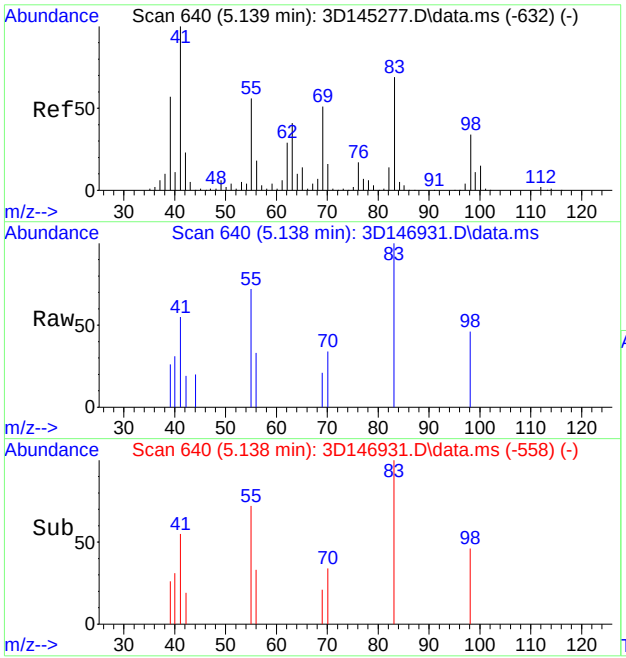


#61
trichloroethene
Concen: 4.35 ug/L
RT: 4.950 min Scan# 609
Delta R.T. -0.000 min
Lab File: 3D146931.D
Acq: 23 Apr 2019 12:21 pm

Tgt Ion:130 Resp: 10307

Ion	Ratio	Lower	Upper
130	100		
95	91.6	60.4	120.4
130	100.0	70.0	130.0
132	93.1	65.3	125.3

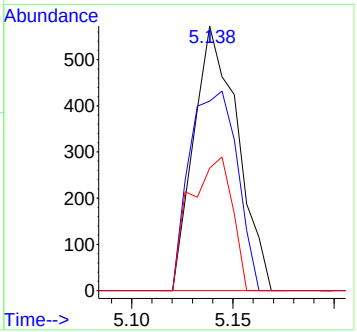


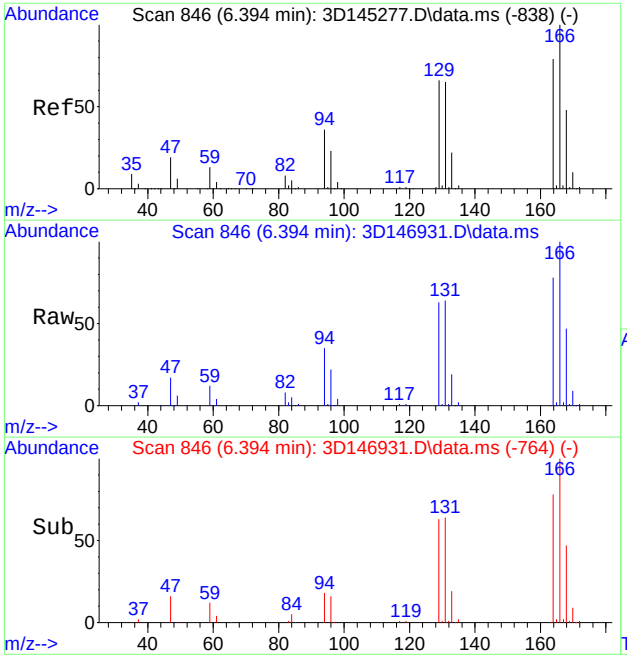


#68
methylcyclohexane
Concen: 0.23 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3D146931.D
Acq: 23 Apr 2019 12:21 pm

Tgt Ion: 83 Resp: 859

Ion	Ratio	Lower	Upper
83	100		
55	71.6	51.3	111.3
98	46.2	19.5	79.5

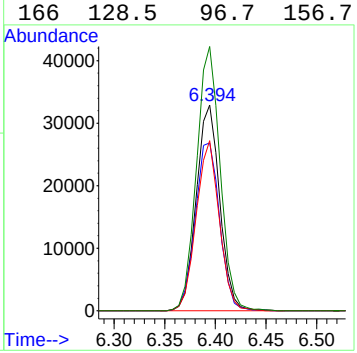




#80
tetrachloroethene
Concen: 26.27 ug/L
RT: 6.394 min Scan# 846
Delta R.T. -0.000 min
Lab File: 3D146931.D
Acq: 23 Apr 2019 12:21 pm

Tgt Ion:164 Resp: 53104

Ion	Ratio	Lower	Upper
164	100		
129	81.6	54.1	114.1
131	82.7	52.5	112.5
166	128.5	96.7	156.7



7.1.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146934.D
Acq On : 23 Apr 2019 1:36 pm
Operator : JessicaP
Sample : JC86512-11
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 23 17:06:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

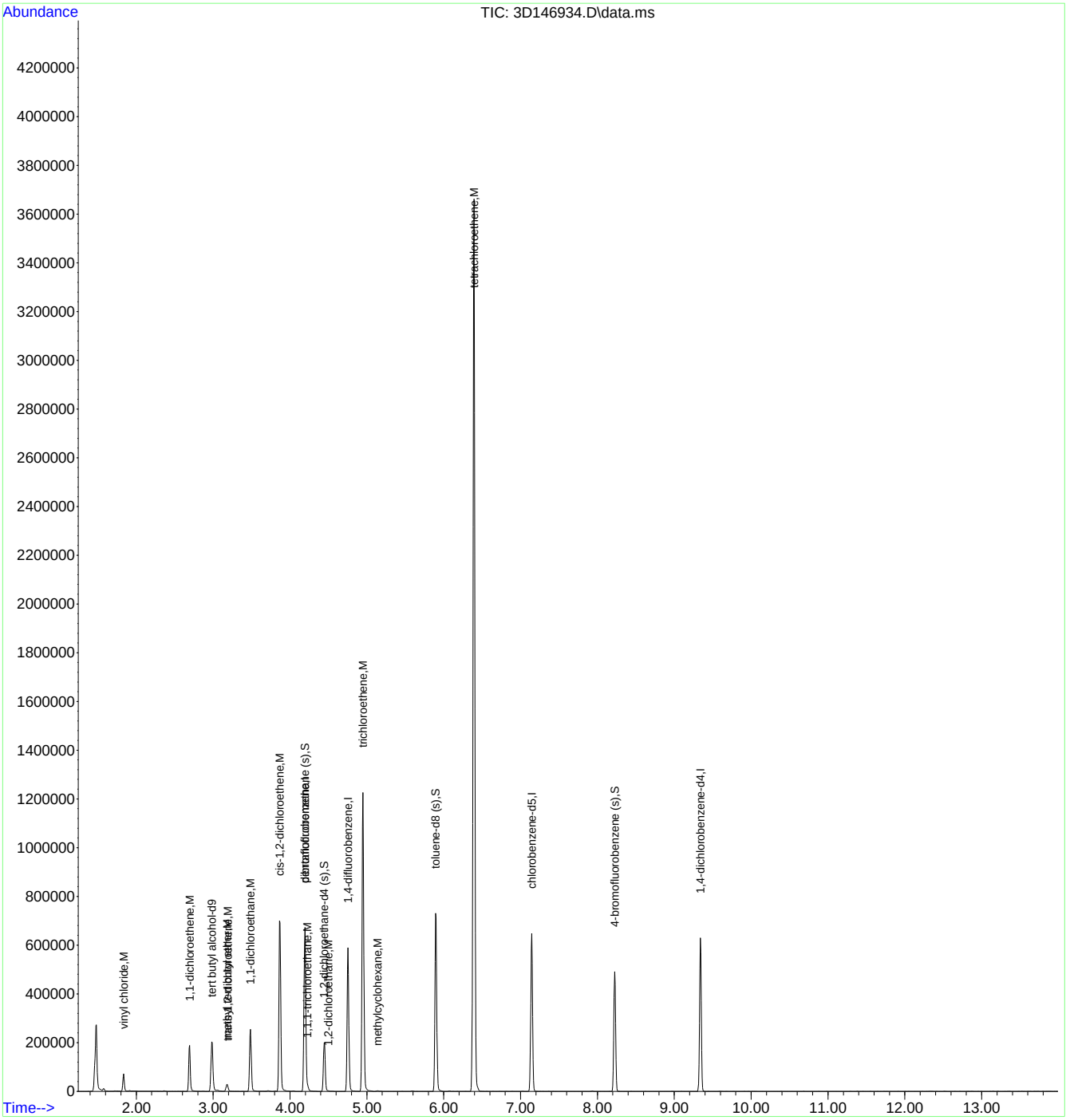
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.980	65	210029	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	296899	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	410872	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	356059	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	172045	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	104703	49.63	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.26%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	112105	48.59	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 97.18%			
75) toluene-d8 (s)	5.894	98	457270	50.56	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.12%			
99) 4-bromofluorobenzene (s)	8.223	95	155780	47.96	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 95.92%			
Target Compounds						Qvalue
9) vinyl chloride	1.834	62	56993	20.21	ug/L	97
18) 1,1-dichloroethene	2.694	96	61742	31.35	ug/L	99
25) methyl tert butyl ether	3.175	73	23008	3.49	ug/L	98
26) trans-1,2-dichloroethene	3.194	96	1797	0.81	ug/L #	76
29) 1,1-dichloroethane	3.486	63	200816	53.95	ug/L	99
37) cis-1,2-dichloroethene	3.870	96	265819	111.58	ug/L	91
46) 1,1,1-trichloroethane	4.230	97	8587	2.57	ug/L	91
60) 1,2-dichloroethane	4.504	62	773	0.26	ug/L	88
61) trichloroethene	4.949	130	374911	157.41	ug/L	99
68) methylcyclohexane	5.145	83	1085	0.29	ug/L	93
80) tetrachloroethene	6.394	164	879298	434.65	ug/L	98

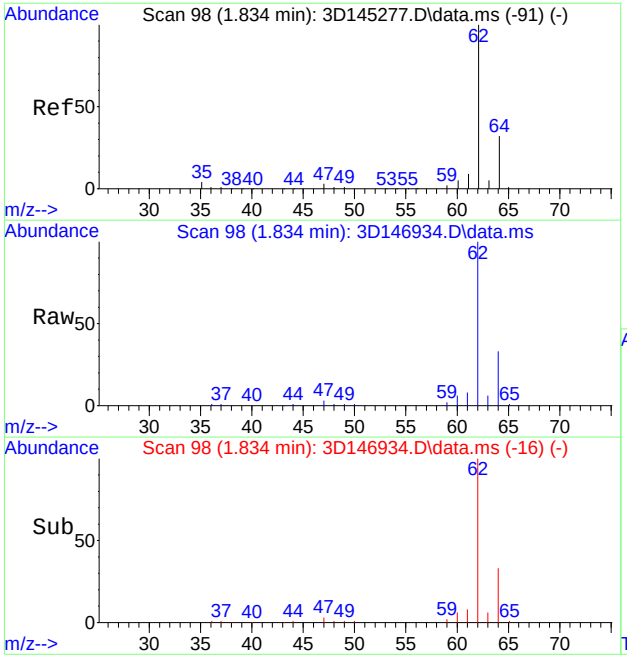
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146934.D
Acq On : 23 Apr 2019 1:36 pm
Operator : JessicaP
Sample : JC86512-11
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 23 17:06:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

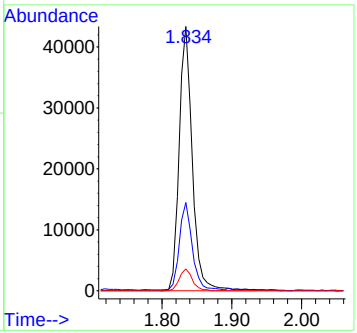


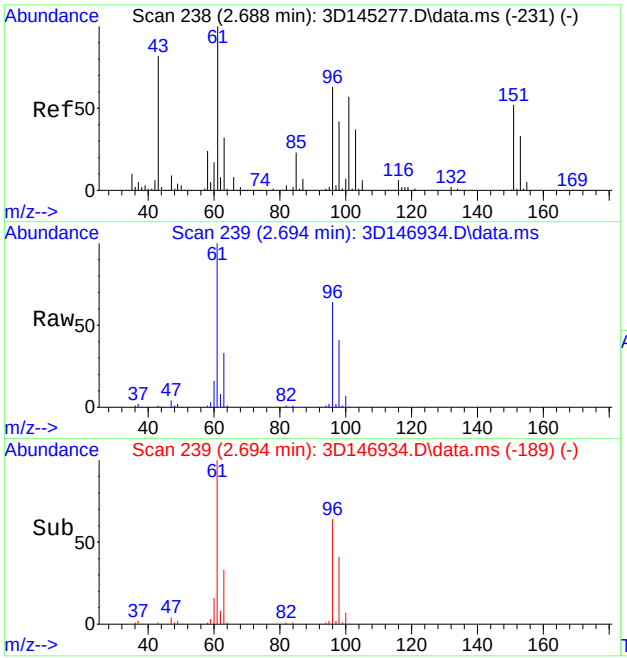


#9
vinyl chloride
Concen: 20.21 ug/L
RT: 1.834 min Scan# 98
Delta R.T. -0.000 min
Lab File: 3D146934.D
Acq: 23 Apr 2019 1:36 pm

Tgt Ion: 62 Resp: 56993

Ion	Ratio	Lower	Upper
62	100		
64	33.2	1.5	61.5
61	8.3	0.0	38.8

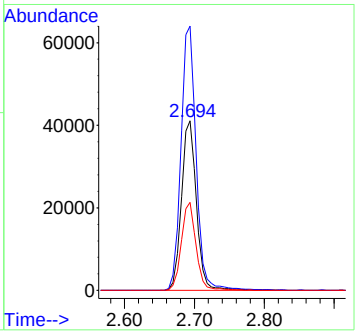


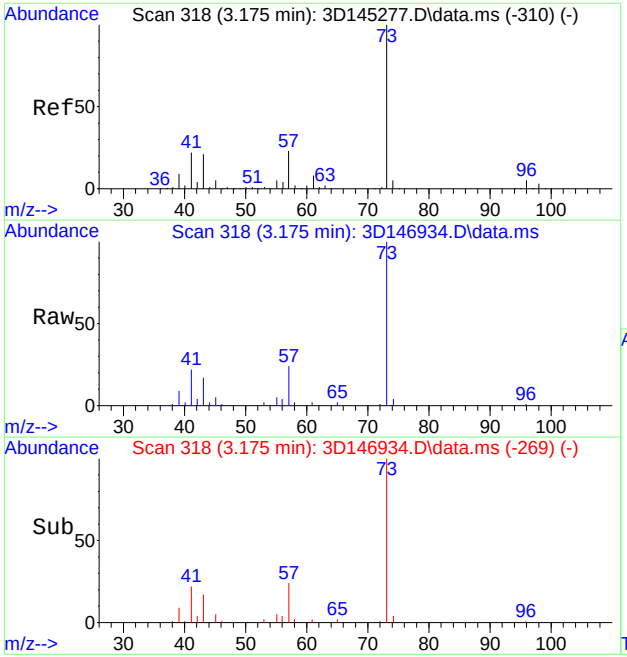


#18
1,1-dichloroethene
Concen: 31.35 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.006 min
Lab File: 3D146934.D
Acq: 23 Apr 2019 1:36 pm

Tgt Ion: 96 Resp: 61742

Ion	Ratio	Lower	Upper
96	100		
61	155.8	127.6	187.6
63	51.8	21.0	81.0

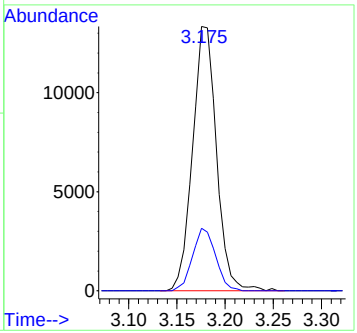


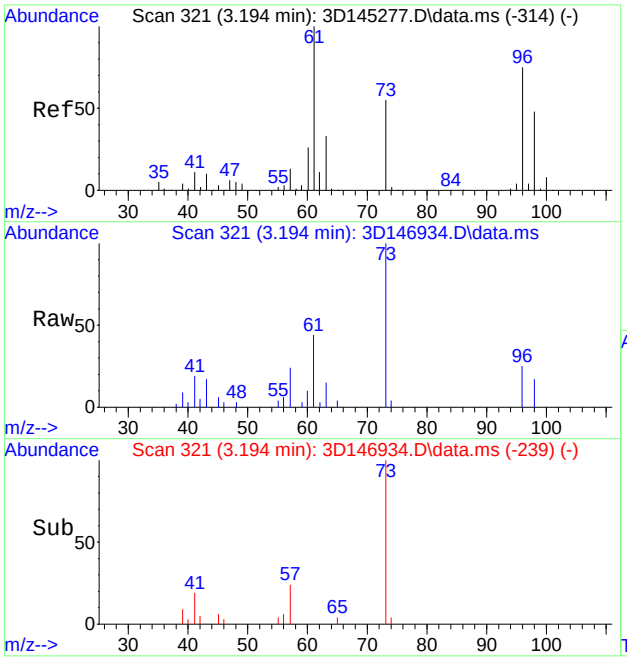


#25
methyl tert butyl ether
Concen: 3.49 ug/L
RT: 3.175 min Scan# 318
Delta R.T. -0.000 min
Lab File: 3D146934.D
Acq: 23 Apr 2019 1:36 pm

Tgt Ion: 73 Resp: 23008

Ion	Ratio	Lower	Upper
73	100		
57	23.6	0.0	222.6

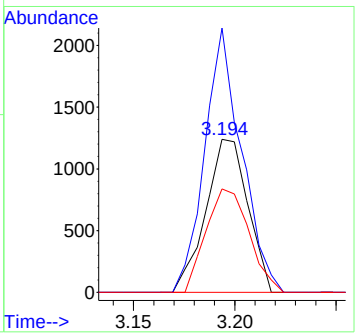


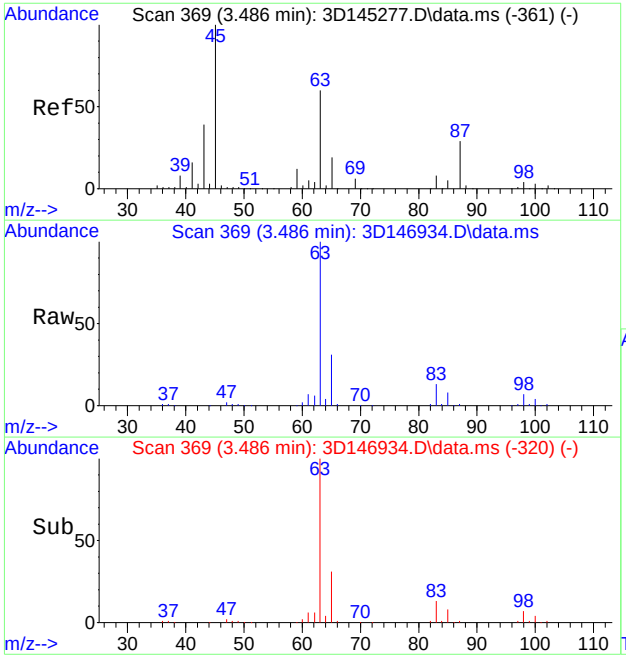


#26
trans-1,2-dichloroethene
Concen: 0.81 ug/L
RT: 3.194 min Scan# 321
Delta R.T. -0.000 min
Lab File: 3D146934.D
Acq: 23 Apr 2019 1:36 pm

Tgt Ion: 96 Resp: 1797

Ion	Ratio	Lower	Upper
96	100		
61	172.7	103.7	163.7#
98	67.6	33.7	93.7

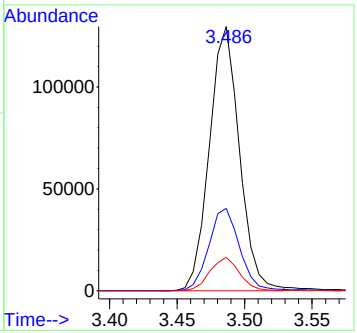


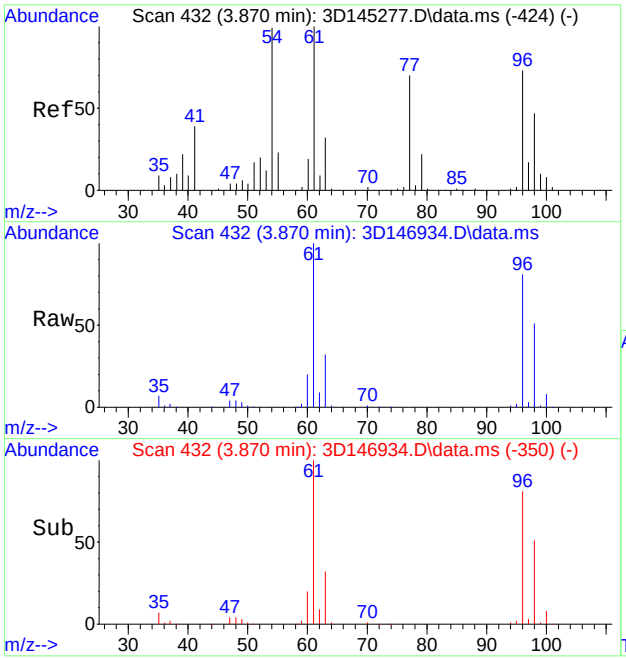


#29
1,1-dichloroethane
Concen: 53.95 ug/L
RT: 3.486 min Scan# 369
Delta R.T. -0.000 min
Lab File: 3D146934.D
Acq: 23 Apr 2019 1:36 pm

Tgt Ion: 63 Resp: 200816

Ion	Ratio	Lower	Upper
63	100		
65	31.2	1.5	61.5
83	12.7	0.0	43.7

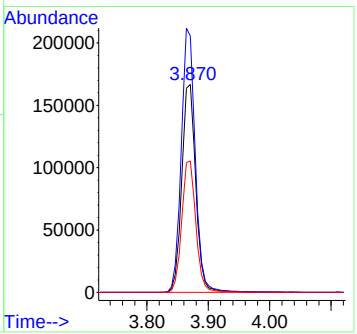


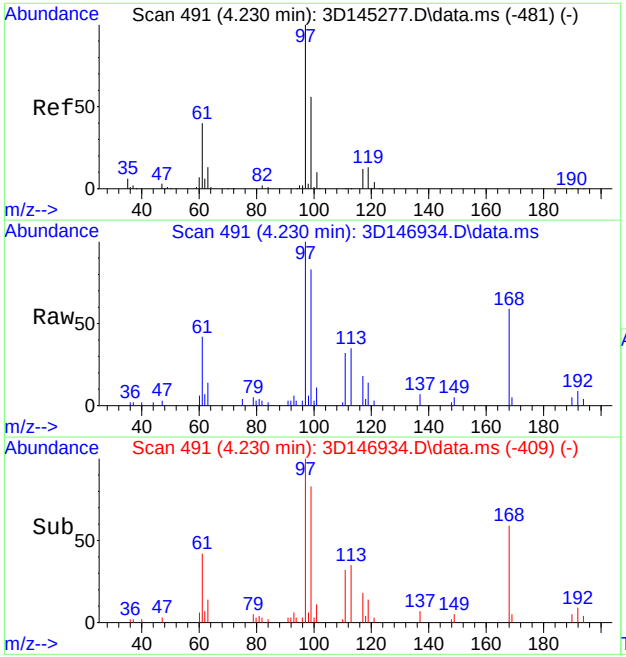


#37
cis-1,2-dichloroethene
Concen: 111.58 ug/L
RT: 3.870 min Scan# 432
Delta R.T. -0.000 min
Lab File: 3D146934.D
Acq: 23 Apr 2019 1:36 pm

Tgt Ion: 96 Resp: 265819

Ion	Ratio	Lower	Upper
96	100		
61	123.3	107.5	167.5
98	63.3	35.2	95.2

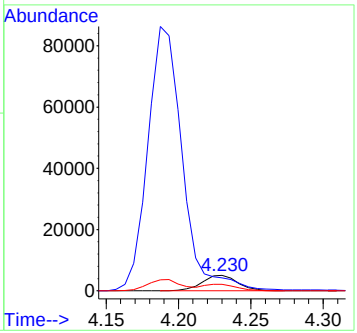


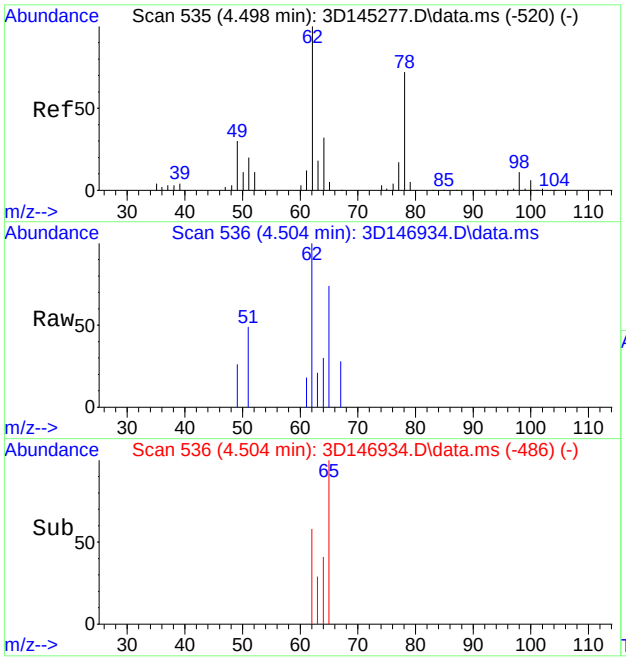


#46
1,1,1-trichloroethane
Concen: 2.57 ug/L
RT: 4.230 min Scan# 491
Delta R.T. -0.000 min
Lab File: 3D146934.D
Acq: 23 Apr 2019 1:36 pm

Tgt Ion: 97 Resp: 8587

Ion	Ratio	Lower	Upper
97	100		
99	76.4	35.7	95.7
61	41.9	10.4	70.4

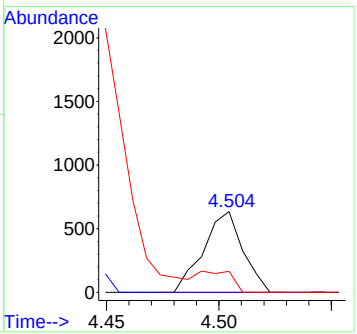


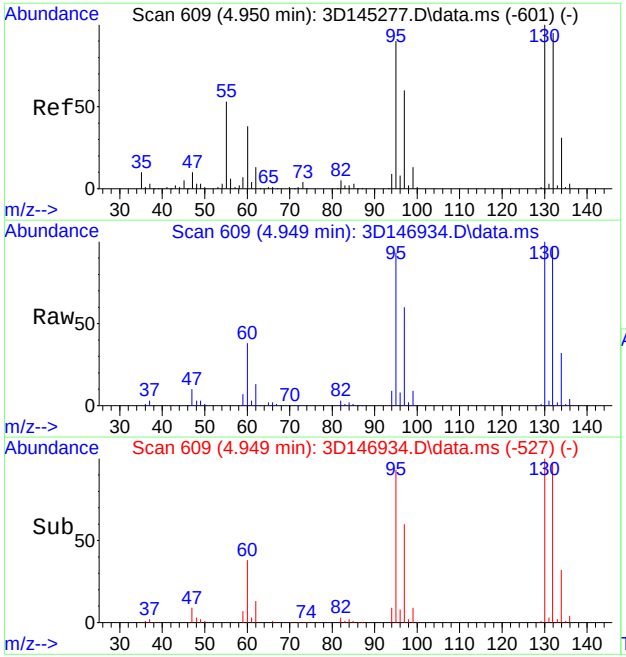


#60
1,2-dichloroethane
Concen: 0.26 ug/L
RT: 4.504 min Scan# 536
Delta R.T. 0.006 min
Lab File: 3D146934.D
Acq: 23 Apr 2019 1:36 pm

Tgt Ion: 62 Resp: 773

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	40.6
49	26.0	0.0	59.7

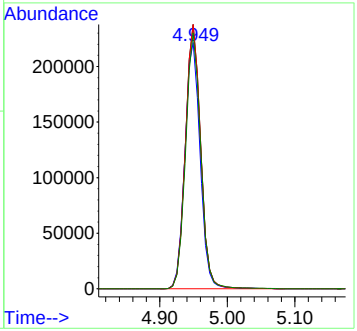


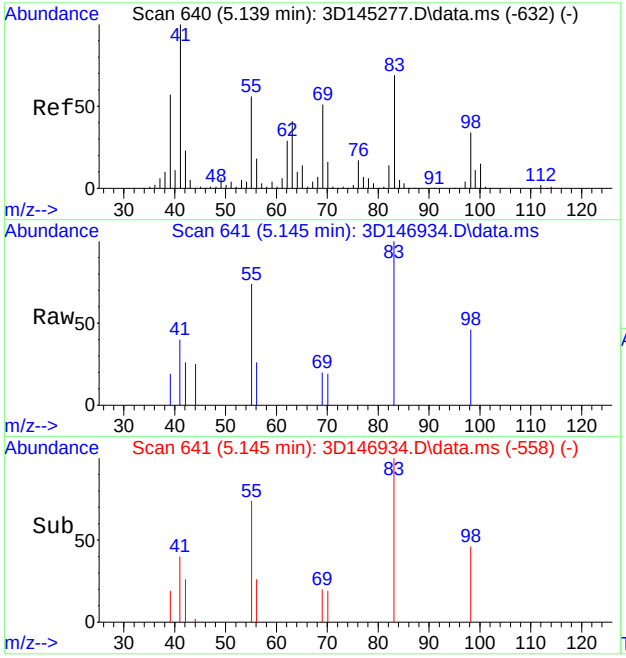


#61
trichloroethene
Concen: 157.41 ug/L
RT: 4.949 min Scan# 609
Delta R.T. -0.000 min
Lab File: 3D146934.D
Acq: 23 Apr 2019 1:36 pm

Tgt Ion:130 Resp: 374911

Ion	Ratio	Lower	Upper
130	100		
95	93.1	60.4	120.4
130	100.0	70.0	130.0
132	96.7	65.3	125.3

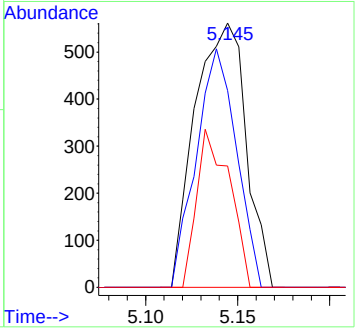


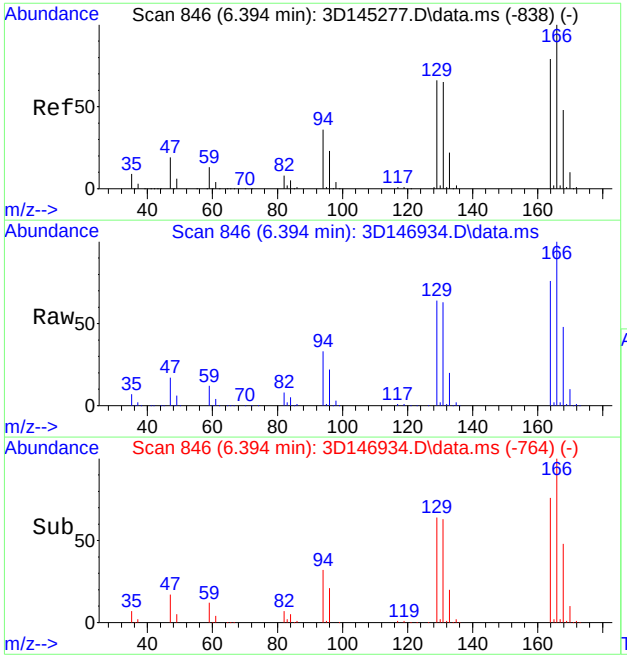


#68
methylcyclohexane
Concen: 0.29 ug/L
RT: 5.145 min Scan# 641
Delta R.T. 0.007 min
Lab File: 3D146934.D
Acq: 23 Apr 2019 1:36 pm

Tgt Ion: 83 Resp: 1085

Ion	Ratio	Lower	Upper
83	100		
55	74.4	51.3	111.3
98	45.9	19.5	79.5

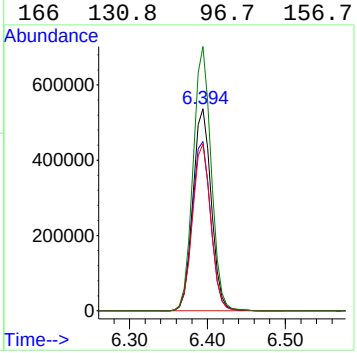




#80
tetrachloroethene
Concen: 434.65 ug/L
RT: 6.394 min Scan# 846
Delta R.T. -0.000 min
Lab File: 3D146934.D
Acq: 23 Apr 2019 1:36 pm

Tgt Ion:164 Resp: 879298

Ion	Ratio	Lower	Upper
164	100		
129	83.8	54.1	114.1
131	82.5	52.5	112.5
166	130.8	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146939.D
Acq On : 23 Apr 2019 3:42 pm
Operator : JessicaP
Sample : JC86512-11
Misc : MS34076,V3D6281,5,,,,10
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 23 17:07:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

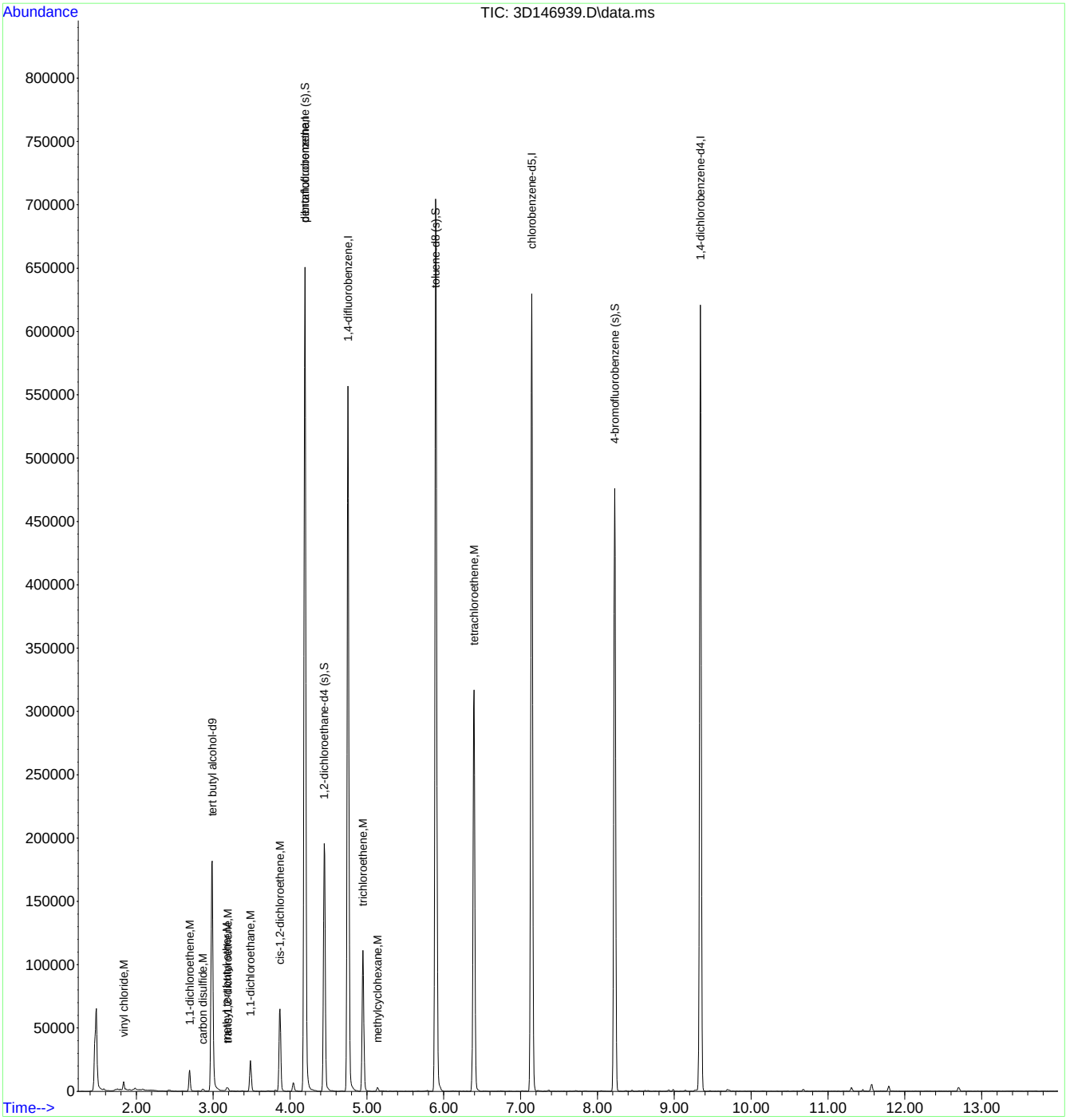
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.986	65	188488	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	284402	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	391297	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	345058	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	167800	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	99765	49.37	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.74%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	106520	48.48	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 96.96%			
75) toluene-d8 (s)	5.894	98	439876	50.19	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.38%			
99) 4-bromofluorobenzene (s)	8.223	95	152924	48.27	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.54%			
Target Compounds						Qvalue
9) vinyl chloride	1.834	62	4798	1.78	ug/L	98
18) 1,1-dichloroethene	2.694	96	4846	2.57	ug/L	88
22) carbon disulfide	2.865	76	1902	0.37	ug/L	85
25) methyl tert butyl ether	3.175	73	2288	0.36	ug/L	86
26) trans-1,2-dichloroethene	3.194	96	444	0.21	ug/L #	81
29) 1,1-dichloroethane	3.486	63	18903	5.30	ug/L	100
37) cis-1,2-dichloroethene	3.870	96	23896	10.47	ug/L	92
61) trichloroethene	4.949	130	33899	14.95	ug/L	98
68) methylcyclohexane	5.138	83	1180	0.33	ug/L	98
80) tetrachloroethene	6.394	164	79174	40.38	ug/L	98

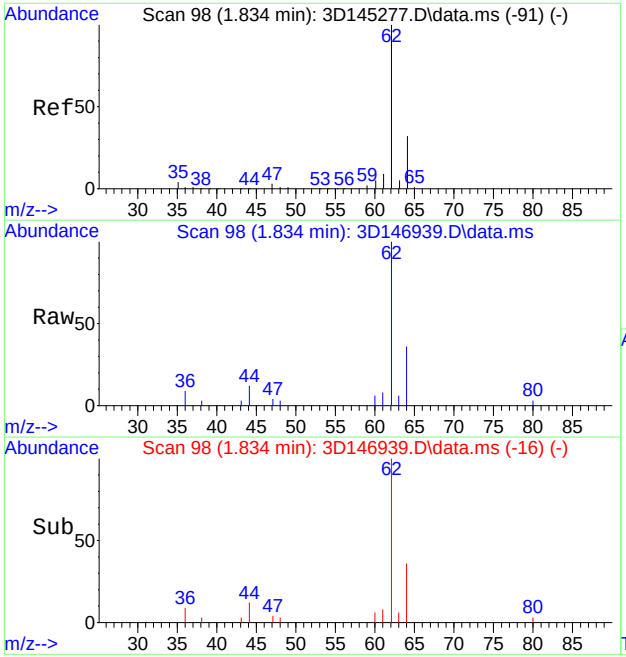
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146939.D
Acq On : 23 Apr 2019 3:42 pm
Operator : JessicaP
Sample : JC86512-11
Misc : MS34076,V3D6281,5,,,,10
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 23 17:07:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

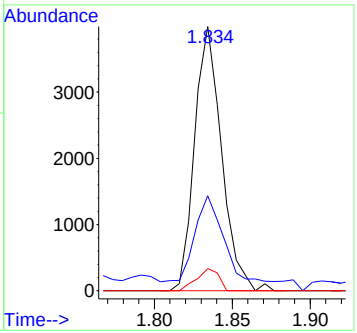


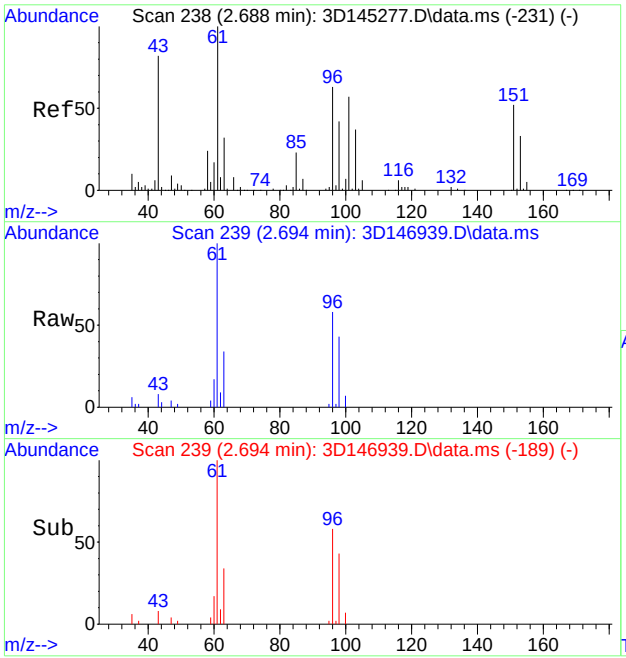


#9
vinyl chloride
Concen: 1.78 ug/L
RT: 1.834 min Scan# 98
Delta R.T. -0.000 min
Lab File: 3D146939.D
Acq: 23 Apr 2019 3:42 pm

Tgt Ion: 62 Resp: 4798

Ion	Ratio	Lower	Upper
62	100		
64	32.6	1.5	61.5
61	8.4	0.0	38.8

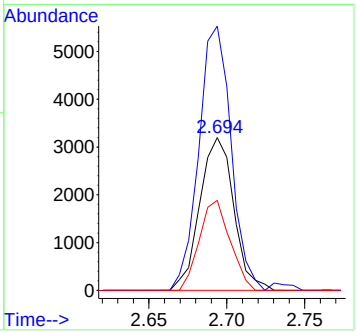


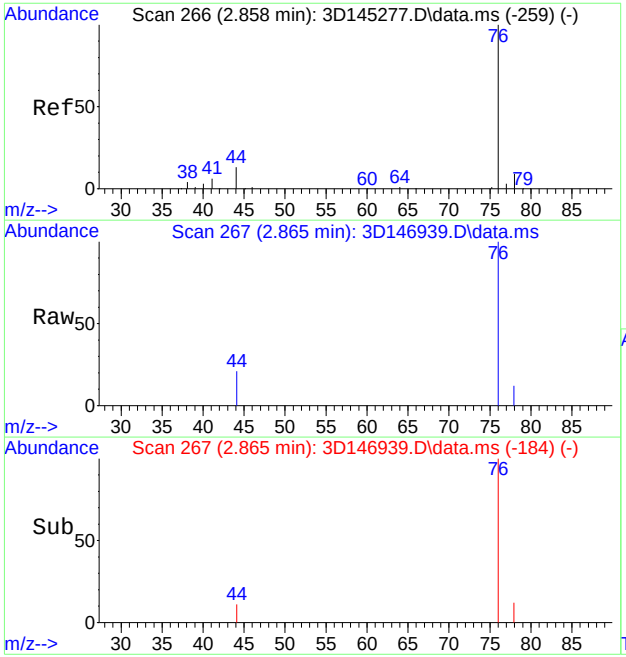


#18
1,1-dichloroethene
Concen: 2.57 ug/L
RT: 2.694 min Scan# 239
Delta R.T. 0.006 min
Lab File: 3D146939.D
Acq: 23 Apr 2019 3:42 pm

Tgt Ion: 96 Resp: 4846

Ion	Ratio	Lower	Upper
96	100		
61	173.2	127.6	187.6
63	59.0	21.0	81.0

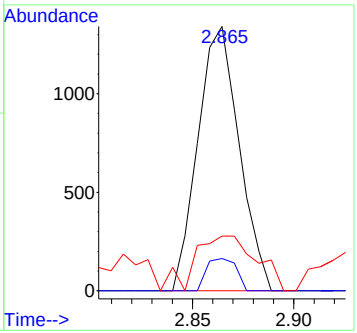


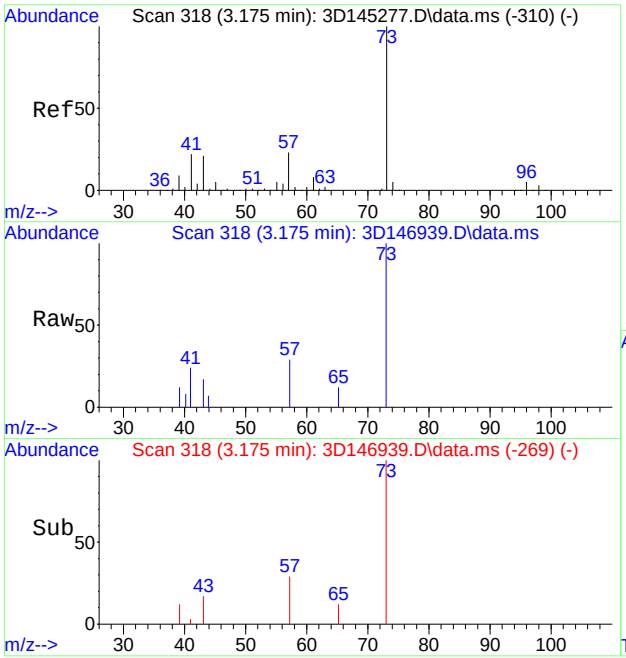


#22
carbon disulfide
Concen: 0.37 ug/L
RT: 2.865 min Scan# 267
Delta R.T. 0.007 min
Lab File: 3D146939.D
Acq: 23 Apr 2019 3:42 pm

Tgt Ion: 76 Resp: 1902

Ion	Ratio	Lower	Upper
76	100		
78	12.2	0.0	39.3
44	20.7	0.0	42.7

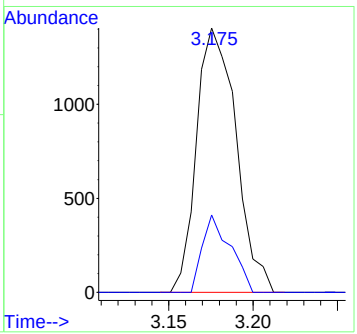


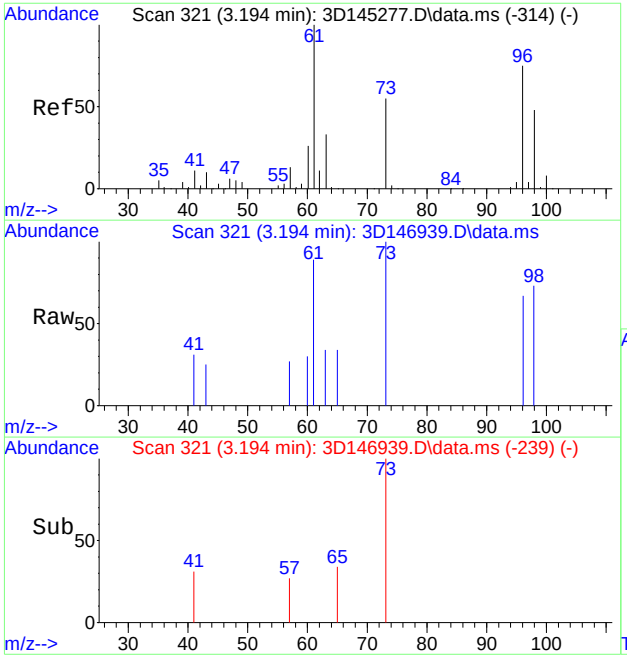


#25
methyl tert butyl ether
Concen: 0.36 ug/L
RT: 3.175 min Scan# 318
Delta R.T. -0.000 min
Lab File: 3D146939.D
Acq: 23 Apr 2019 3:42 pm

Tgt Ion: 73 Resp: 2288

Ion	Ratio	Lower	Upper
73	100		
57	29.2	0.0	222.6

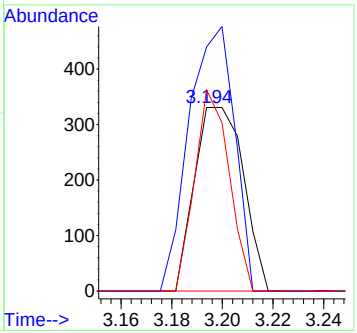


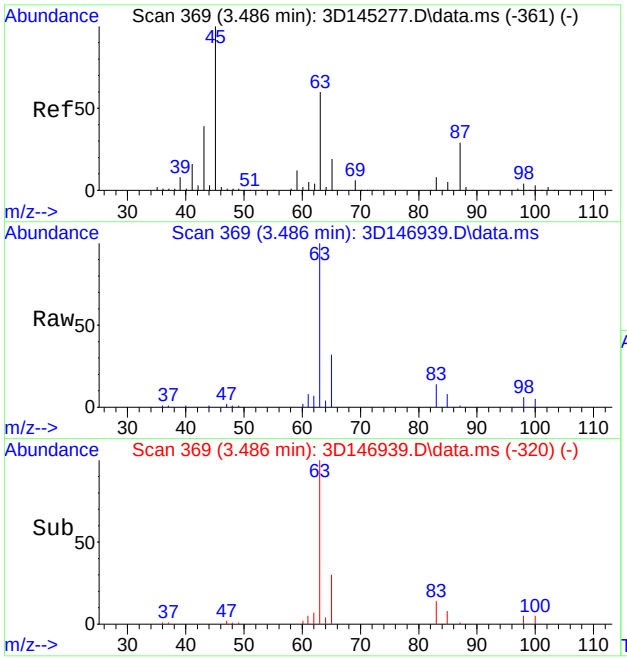


#26
trans-1,2-dichloroethene
Concen: 0.21 ug/L
RT: 3.194 min Scan# 321
Delta R.T. -0.000 min
Lab File: 3D146939.D
Acq: 23 Apr 2019 3:42 pm

Tgt Ion: 96 Resp: 444

Ion	Ratio	Lower	Upper
96	100		
61	132.9	103.7	163.7
98	109.7	33.7	93.7#

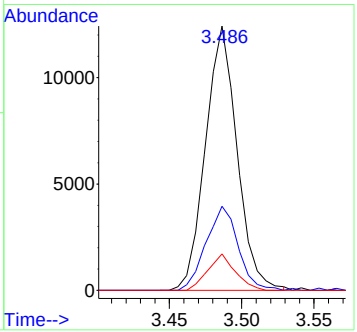


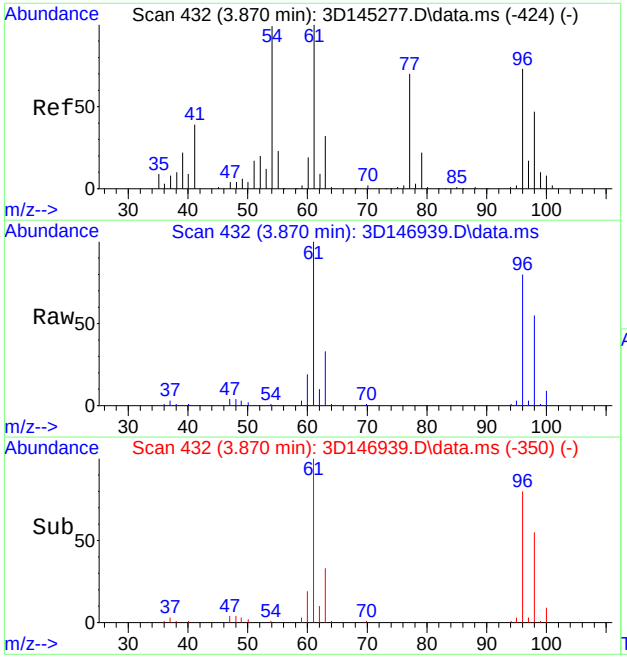


#29
1,1-dichloroethane
Concen: 5.30 ug/L
RT: 3.486 min Scan# 369
Delta R.T. -0.000 min
Lab File: 3D146939.D
Acq: 23 Apr 2019 3:42 pm

Tgt Ion: 63 Resp: 18903

Ion	Ratio	Lower	Upper
63	100		
65	31.8	1.5	61.5
83	13.7	0.0	43.7

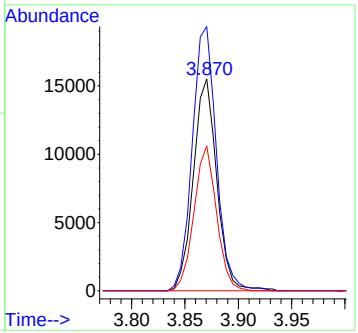


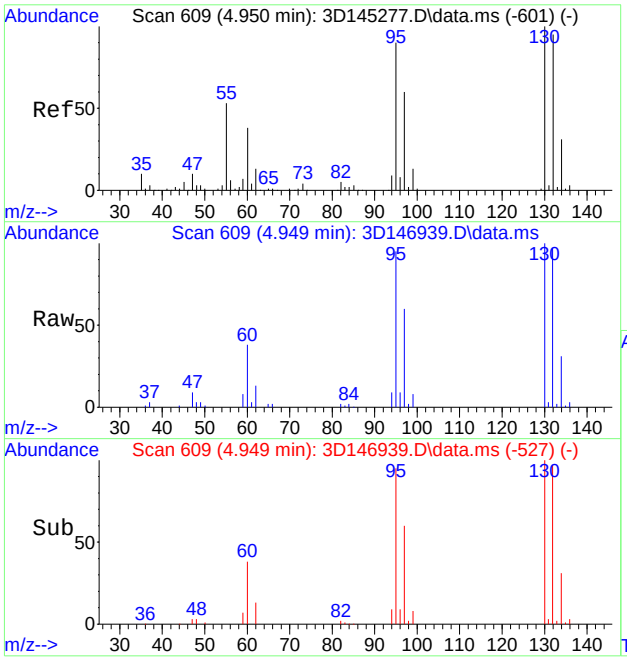


#37
cis-1,2-dichloroethene
Concen: 10.47 ug/L
RT: 3.870 min Scan# 432
Delta R.T. -0.000 min
Lab File: 3D146939.D
Acq: 23 Apr 2019 3:42 pm

Tgt Ion: 96 Resp: 23896

Ion	Ratio	Lower	Upper
96	100		
61	124.8	107.5	167.5
98	68.4	35.2	95.2

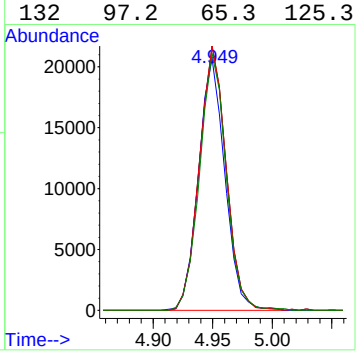


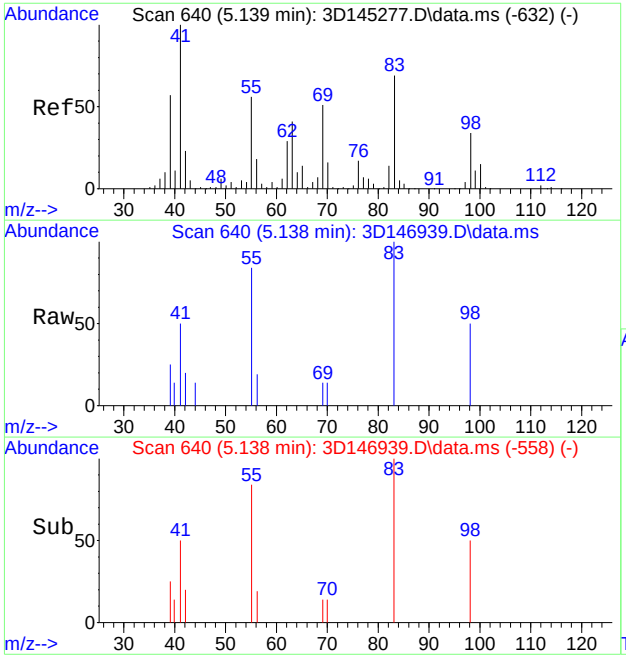


#61
trichloroethene
Concen: 14.95 ug/L
RT: 4.949 min Scan# 609
Delta R.T. -0.000 min
Lab File: 3D146939.D
Acq: 23 Apr 2019 3:42 pm

Tgt Ion:130 Resp: 33899

Ion	Ratio	Lower	Upper
130	100		
95	95.2	60.4	120.4
130	100.0	70.0	130.0
132	97.2	65.3	125.3

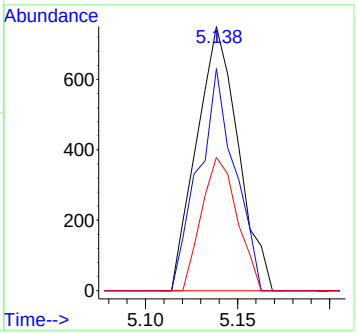


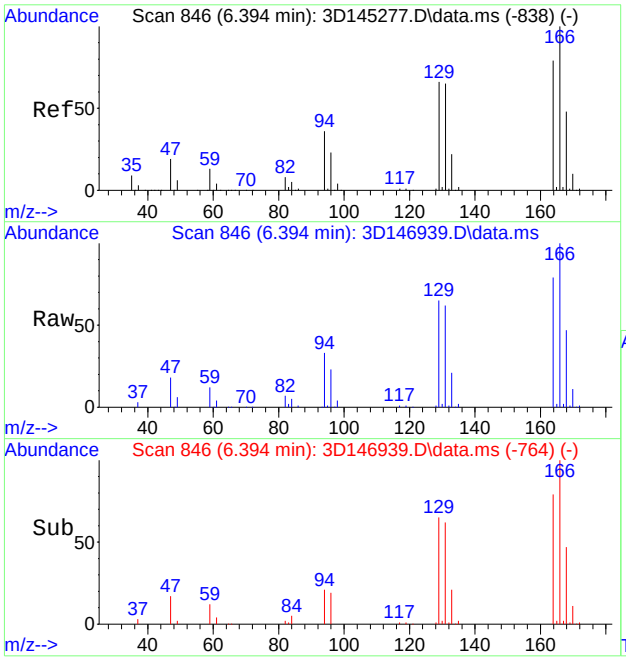


#68
methylcyclohexane
Concen: 0.33 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3D146939.D
Acq: 23 Apr 2019 3:42 pm

Tgt Ion: 83 Resp: 1180

Ion	Ratio	Lower	Upper
83	100		
55	84.0	51.3	111.3
98	50.5	19.5	79.5

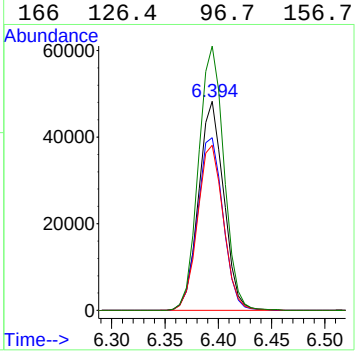




#80
tetrachloroethene
Concen: 40.38 ug/L
RT: 6.394 min Scan# 846
Delta R.T. -0.000 min
Lab File: 3D146939.D
Acq: 23 Apr 2019 3:42 pm

Tgt Ion:164 Resp: 79174

Ion	Ratio	Lower	Upper
164	100		
129	82.5	54.1	114.1
131	79.0	52.5	112.5
166	126.4	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146932.D
Acq On : 23 Apr 2019 12:46 pm
Operator : JessicaP
Sample : JC86512-12
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 23 14:00:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

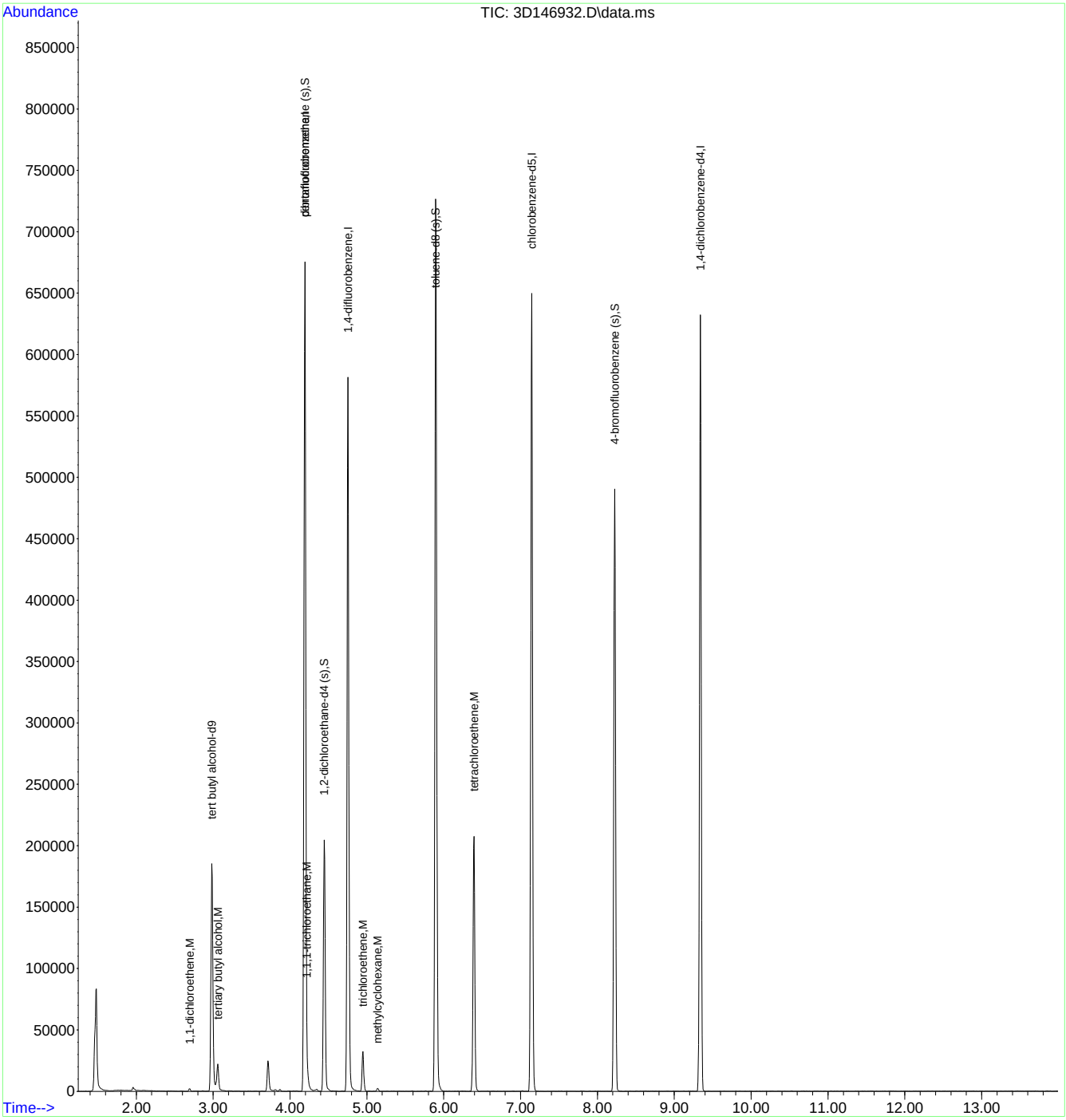
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.980	65	185009	500.00	ug/L	0.00
5) pentafluorobenzene	4.193	168	295561	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	412957	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	355169	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	171194	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	103477	49.27	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.54%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	110589	47.69	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 95.38%			
75) toluene-d8 (s)	5.894	98	456896	50.65	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.30%			
99) 4-bromofluorobenzene (s)	8.223	95	156613	48.45	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.90%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.060	59	9497	19.83	ug/L	72
18) 1,1-dichloroethene	2.688	96	567	0.29	ug/L #	73
46) 1,1,1-trichloroethane	4.224	97	3578	1.08	ug/L #	43
61) trichloroethene	4.949	130	9955	4.16	ug/L	98
68) methylcyclohexane	5.138	83	984	0.26	ug/L	87
80) tetrachloroethene	6.394	164	51710	25.63	ug/L	97

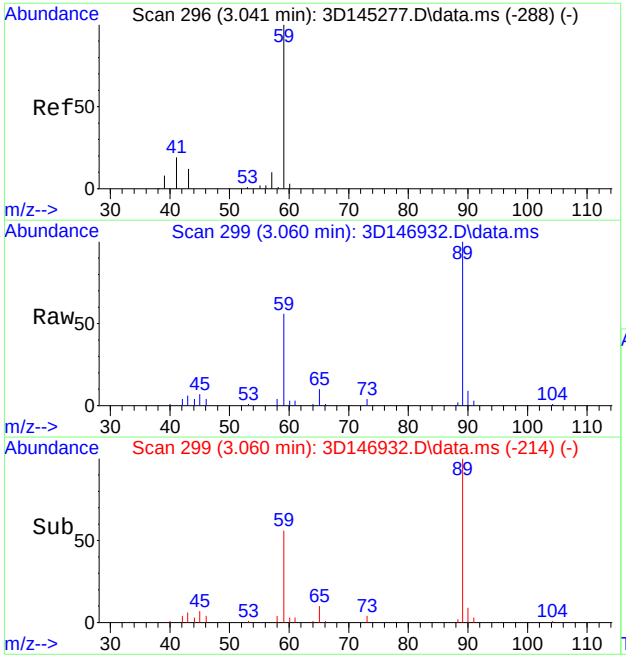
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146932.D
Acq On : 23 Apr 2019 12:46 pm
Operator : JessicaP
Sample : JC86512-12
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 23 14:00:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

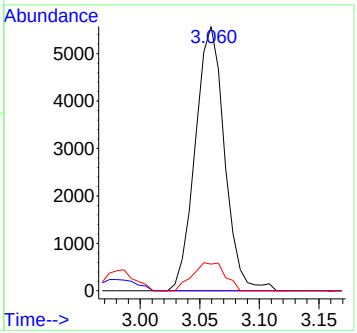


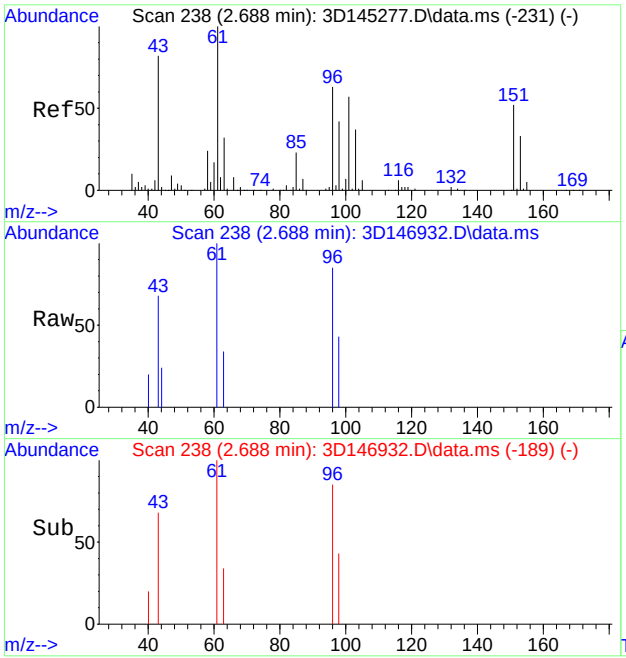


#2
tertiary butyl alcohol
Concen: 19.83 ug/L
RT: 3.060 min Scan# 299
Delta R.T. 0.018 min
Lab File: 3D146932.D
Acq: 23 Apr 2019 12:46 pm

Tgt Ion: 59 Resp: 9497

Ion	Ratio	Lower	Upper
59	100		
41	0.0	0.0	48.9
43	10.1	0.0	42.3

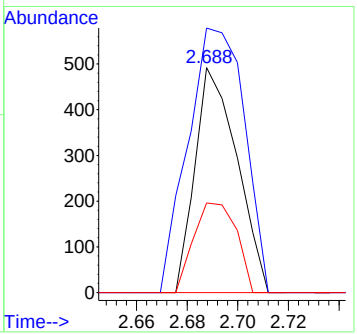


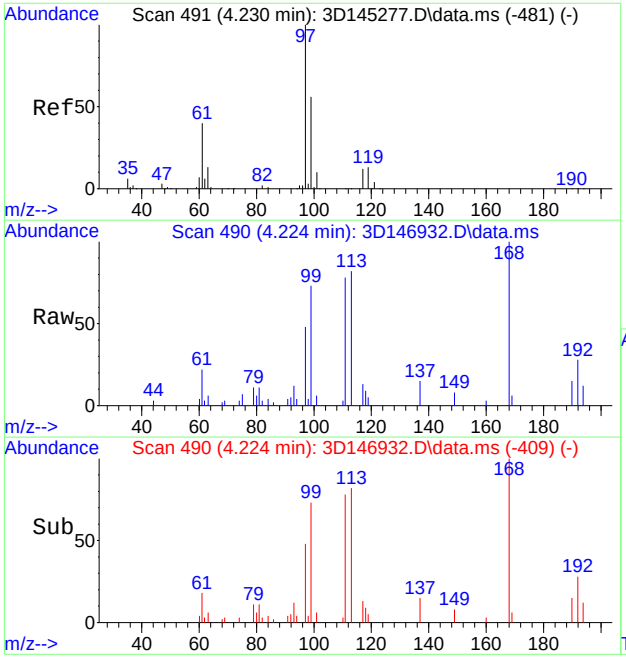


#18
1,1-dichloroethene
Concen: 0.29 ug/L
RT: 2.688 min Scan# 238
Delta R.T. -0.000 min
Lab File: 3D146932.D
Acq: 23 Apr 2019 12:46 pm

Tgt Ion: 96 Resp: 567

Ion	Ratio	Lower	Upper
96	100		
61	117.7	127.6	187.6#
63	39.8	21.0	81.0

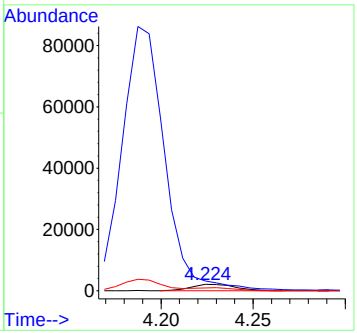


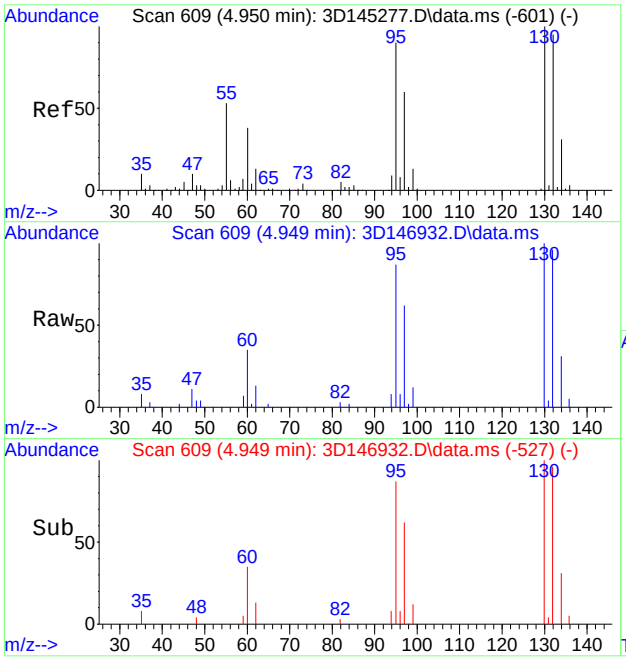


#46
1,1,1-trichloroethane
Concen: 1.08 ug/L
RT: 4.224 min Scan# 490
Delta R.T. -0.006 min
Lab File: 3D146932.D
Acq: 23 Apr 2019 12:46 pm

Tgt Ion: 97 Resp: 3578

Ion	Ratio	Lower	Upper
97	100		
99	134.3	35.7	95.7#
61	46.0	10.4	70.4

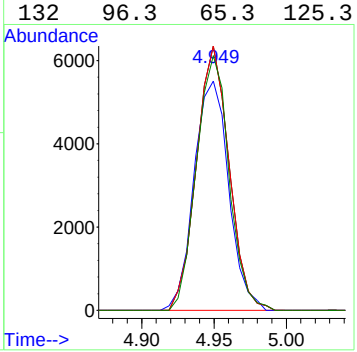


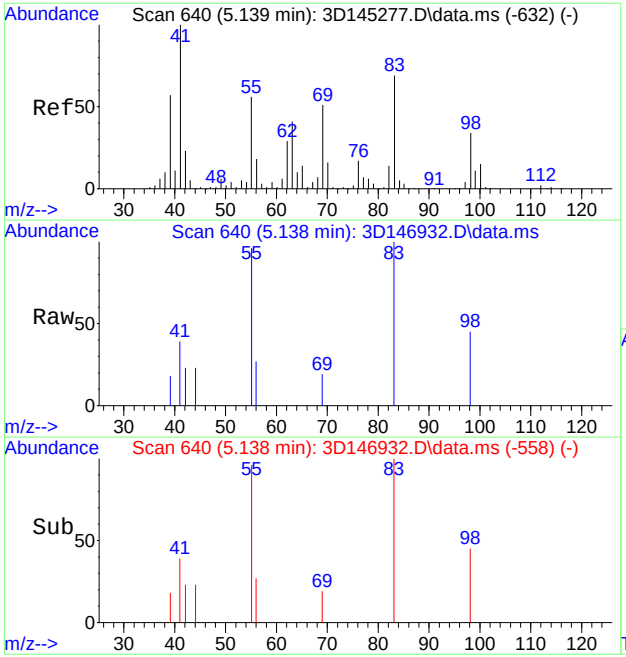


#61
trichloroethene
Concen: 4.16 ug/L
RT: 4.949 min Scan# 609
Delta R.T. -0.000 min
Lab File: 3D146932.D
Acq: 23 Apr 2019 12:46 pm

Tgt Ion:130 Resp: 9955

Ion	Ratio	Lower	Upper
130	100		
95	86.7	60.4	120.4
130	100.0	70.0	130.0
132	96.3	65.3	125.3

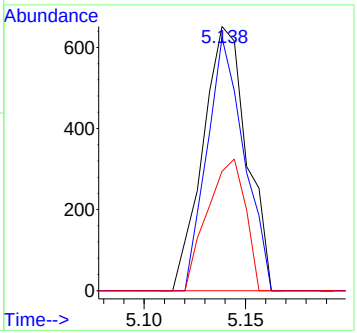


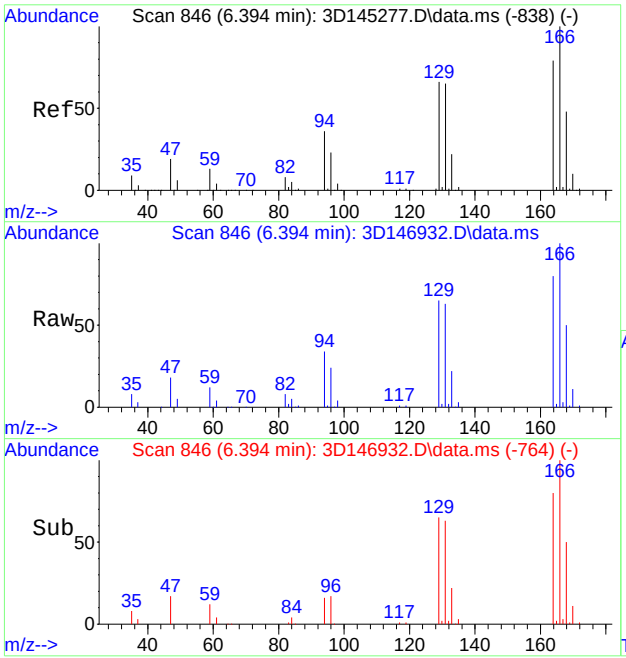


#68
methylcyclohexane
Concen: 0.26 ug/L
RT: 5.138 min Scan# 640
Delta R.T. 0.000 min
Lab File: 3D146932.D
Acq: 23 Apr 2019 12:46 pm

Tgt Ion: 83 Resp: 984

Ion	Ratio	Lower	Upper
83	100		
55	95.9	51.3	111.3
98	45.1	19.5	79.5

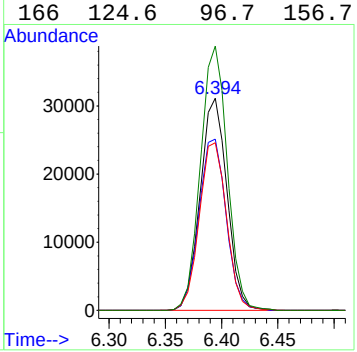




#80
tetrachloroethene
Concen: 25.63 ug/L
RT: 6.394 min Scan# 846
Delta R.T. -0.000 min
Lab File: 3D146932.D
Acq: 23 Apr 2019 12:46 pm

Tgt Ion:164 Resp: 51710

Ion	Ratio	Lower	Upper
164	100		
129	80.7	54.1	114.1
131	79.0	52.5	112.5
166	124.6	96.7	156.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146923.d
Acq On : 23 Apr 2019 8:53 am
Operator : JessicaP
Sample : mb Inst : MS3D
Misc : MS34182,V3D6281,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 11:51:22 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

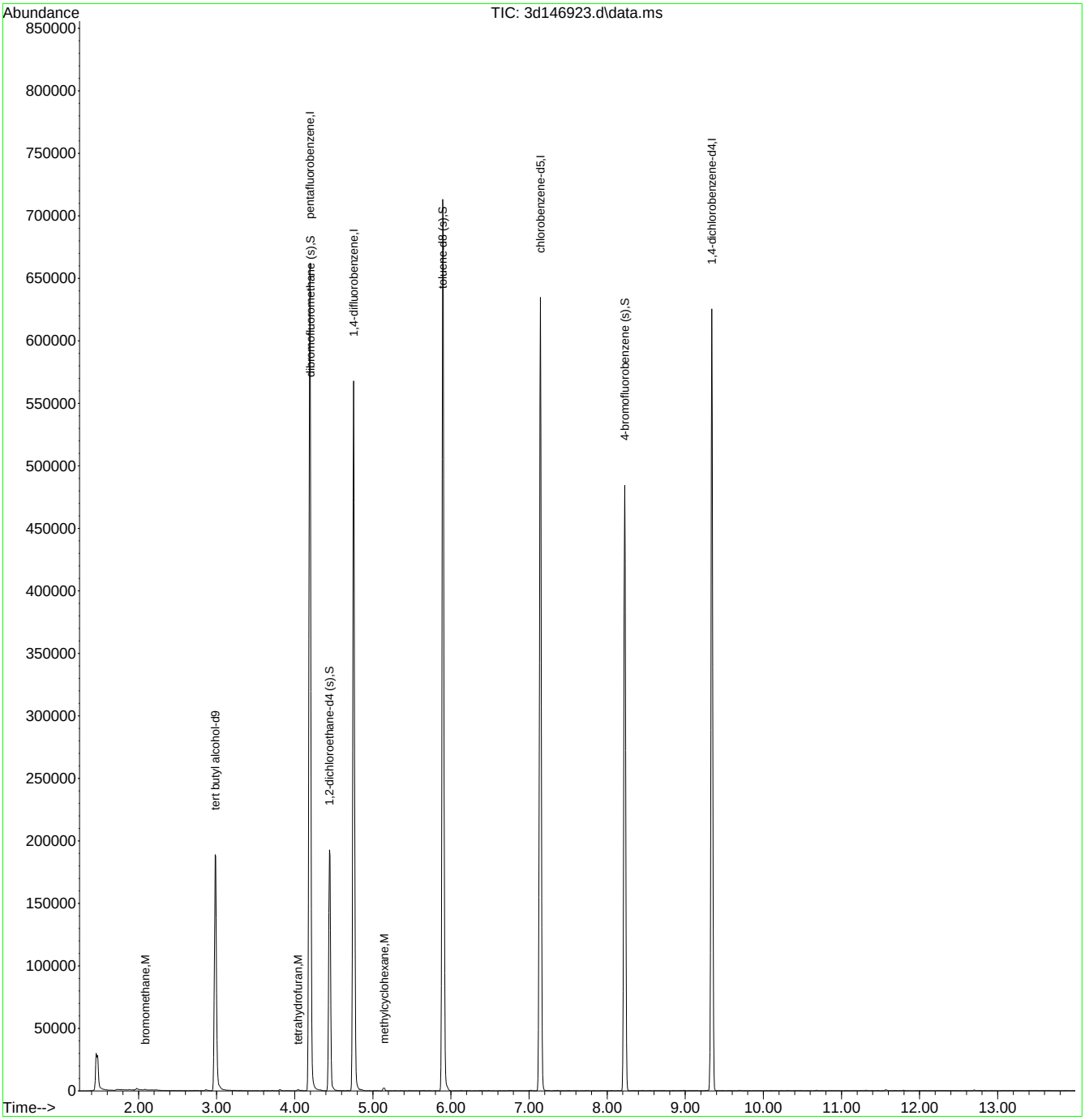
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	2.980	65	196964	500.00	ug/L	0.00
5) pentafluorobenzene	4.193	168	292226	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	398470	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	351528	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	170067	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.199	113	101567	48.91	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 97.82%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	108683	48.57	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 97.14%			
75) toluene-d8 (s)	5.894	98	445707	49.92	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.84%			
99) 4-bromofluorobenzene (s)	8.223	95	155252	48.35	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.70%			
Target Compounds						Qvalue
11) bromomethane	2.084	94	347	0.33	ug/L #	66
41) tetrahydrofuran	4.041	72	301	0.69	ug/L #	67
68) methylcyclohexane	5.144	83	1027	0.28	ug/L	85

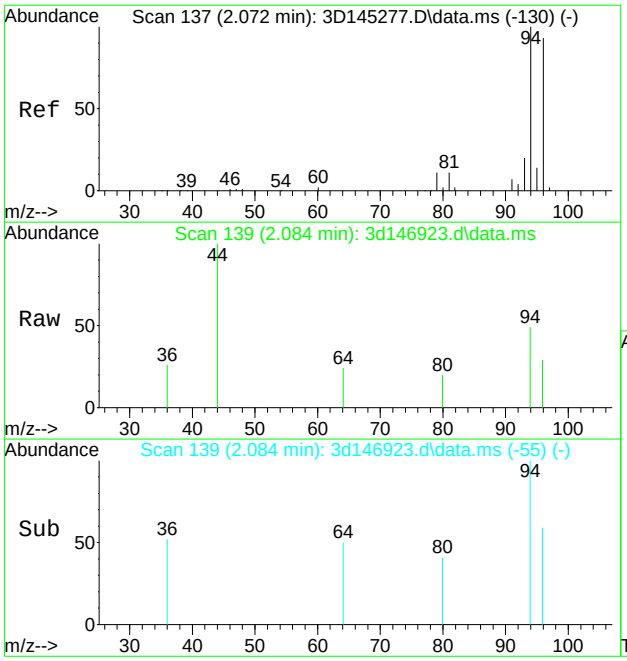
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146923.d
Acq On : 23 Apr 2019 8:53 am
Operator : JessicaP
Sample : mb Inst : MS3D
Misc : MS34182,V3D6281,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 11:51:22 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

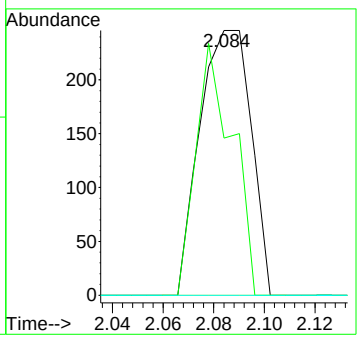


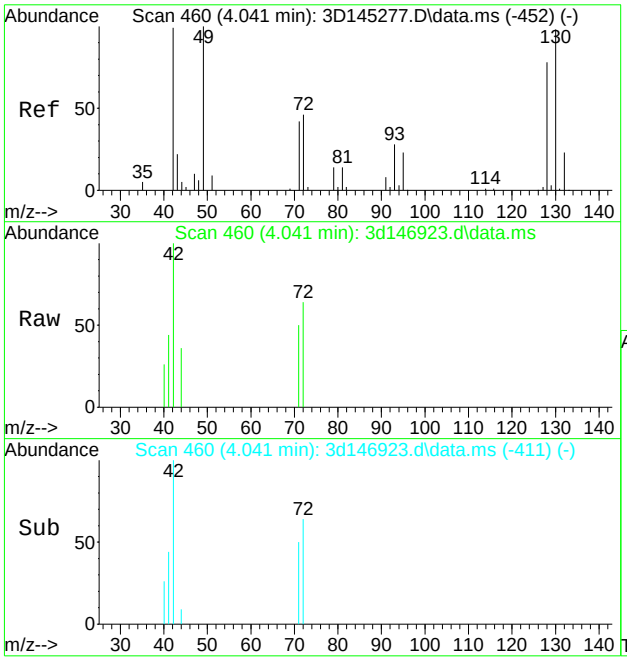


#11
bromomethane
Concen: 0.33 ug/L
RT: 2.084 min Scan# 139
Delta R.T. 0.012 min
Lab File: 3d146923.d
Acq: 23 Apr 2019 8:53 am

Tgt Ion: 94 Resp: 347

Ion	Ratio	Lower	Upper
94	100		
96	59.3	62.5	122.5#
79	0.0	0.0	41.3

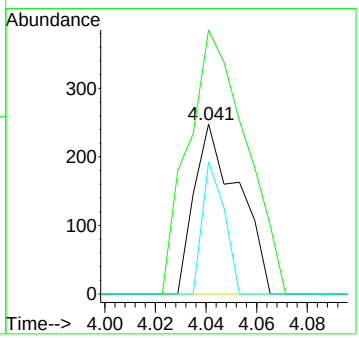


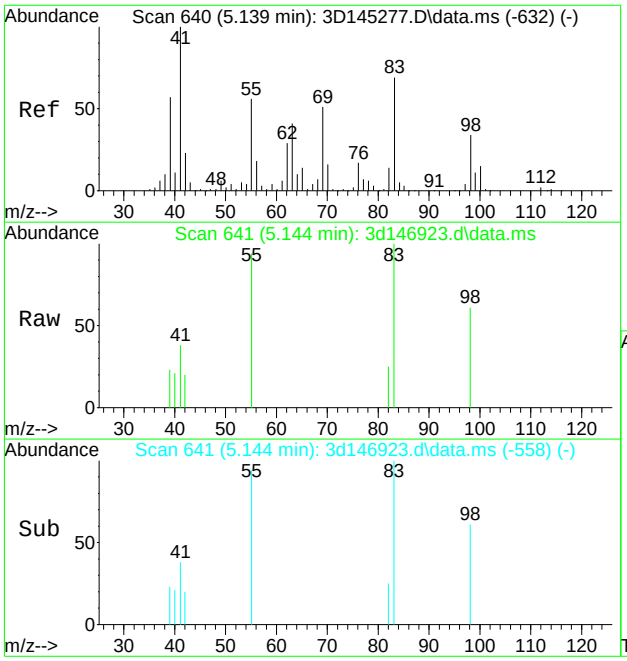


#41
tetrahydrofuran
Concen: 0.69 ug/L
RT: 4.041 min Scan# 460
Delta R.T. 0.000 min
Lab File: 3d146923.d
Acq: 23 Apr 2019 8:53 am

Tgt Ion: 72 Resp: 301

Ion	Ratio	Lower	Upper
72	100		
42	155.2	190.1	250.1#
71	77.8	61.4	121.4

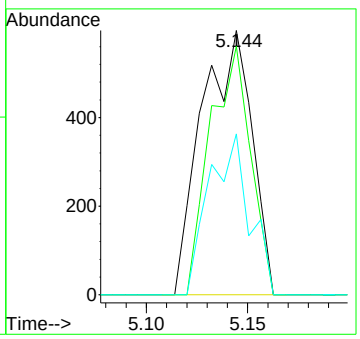




#68
methylcyclohexane
Concen: 0.28 ug/L
RT: 5.144 min Scan# 641
Delta R.T. 0.006 min
Lab File: 3d146923.d
Acq: 23 Apr 2019 8:53 am

Tgt Ion: 83 Resp: 1027

Ion	Ratio	Lower	Upper
83	100		
55	94.0	51.3	111.3
98	60.8	19.5	79.5



7.2.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146920.d
Acq On : 23 Apr 2019 7:32 am
Operator : payalr
Sample : bs Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:24 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	2.986	65	201206	500.00	ug/L		0.00
5) pentafluorobenzene	4.193	168	296899	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	415105	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	360530	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	171591	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.193	113	105342	49.93	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.86%				
53) 1,2-dichloroethane-d4 (s)	4.443	65	109370	46.92	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 93.84%				
75) toluene-d8 (s)	5.894	98	461203	50.36	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.72%				
99) 4-bromofluorobenzene (s)	8.223	95	156826	48.41	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.82%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	125506	240.97	ug/L		100
3) ethanol	2.419	45	262989	5445.10	ug/L		99
4) 1,4-dioxane	5.181	88	58966	1257.74	ug/L		99
6) chlorodifluoromethane	1.615	51	116926	43.30	ug/L		98
7) dichlorodifluoromethane	1.602	85	158849	53.09	ug/L		100
8) chloromethane	1.749	50	129359	46.49	ug/L		98
9) vinyl chloride	1.834	62	150254	53.28	ug/L		100
10) 1,3-butadiene	1.865	54	105768	45.35	ug/L		99
11) bromomethane	2.072	94	42417	40.21	ug/L		97
12) chloroethane	2.151	64	88870	50.95	ug/L		99
13) trichlorofluoromethane	2.334	101	174701	49.28	ug/L		97
14) vinyl bromide	2.291	106	74582	45.31	ug/L		98
15) ethyl ether	2.511	74	75126	57.22	ug/L		97
16) acrolein	2.608	56	25922	49.99	ug/L		97
17) freon 113	2.688	151	85426	43.98	ug/L		94
18) 1,1-dichloroethene	2.694	96	103573	52.58	ug/L		96
19) acetone	2.694	58	67359	227.53	ug/L	#	85
20) acetonitrile	2.883	41	252085	558.13	ug/L		98
21) iodomethane	2.803	142	29986	36.77	ug/L		99
22) carbon disulfide	2.864	76	270683	50.41	ug/L		98
23) methylene chloride	3.011	84	112148	50.74	ug/L		97
24) methyl acetate	2.901	43	130724	53.26	ug/L		99
25) methyl tert butyl ether	3.175	73	355133	53.91	ug/L		98
26) trans-1,2-dichloroethene	3.194	96	114865	51.88	ug/L		96
27) di-isopropyl ether	3.480	45	416958	56.23	ug/L		98
28) 2-butanone	3.834	72	89607	223.49	ug/L		99
29) 1,1-dichloroethane	3.486	63	201968	54.26	ug/L		99
30) chloroprene	3.535	53	184355	51.92	ug/L		98
31) acrylonitrile	3.151	53	66480	58.44	ug/L		97
32) hexane	3.377	56	87863	47.10	ug/L		98
33) vinyl acetate	3.456	86	34320	54.16	ug/L	#	93
34) ethyl tert-butyl ether	3.724	59	381975	54.21	ug/L		99
35) ethyl acetate	3.852	45	26855	53.89	ug/L		95
36) 2,2-dichloropropane	3.876	77	162711	50.70	ug/L		100
37) cis-1,2-dichloroethene	3.870	96	125965	52.88	ug/L		97
38) methyl acrylate	3.895	85	25472	54.46	ug/L		94
39) propionitrile	3.876	54	282863	573.61	ug/L		80
40) bromochloromethane	4.035	128	58920	55.59	ug/L		97
41) tetrahydrofuran	4.041	72	23369	52.43	ug/L		93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146920.d
Acq On : 23 Apr 2019 7:32 am
Operator : payalr
Sample : bs Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:24 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	chloroform	4.090	85	122297	50.35	ug/L		97
43)	t-butyl formate	4.102	59	94801	46.88	ug/L		86
45)	methacrylonitrile	3.986	67	67870	57.34	ug/L		98
46)	1,1,1-trichloroethane	4.230	97	165491	49.54	ug/L		99
47)	cyclohexane	4.291	84	181307	51.15	ug/L		97
48)	1,1-dichloropropene	4.334	75	160805	52.18	ug/L		99
49)	iso-butyl alcohol	4.334	43	103357	525.38	ug/L		98
50)	carbon tetrachloride	4.346	117	138466	50.74	ug/L		99
51)	tert amyl alcohol	4.425	55	45075	267.71	ug/L		96
54)	n-butyl alcohol	4.809	56	372198	2782.26	ug/L		98
55)	2,2,4-trimethylpentane	4.547	57	298859	50.77	ug/L		97
56)	benzene	4.480	78	481826	53.90	ug/L		99
57)	tert-amyl methyl ether	4.541	87	89216	51.34	ug/L		92
58)	heptane	4.657	71	77764	51.15	ug/L		98
59)	isopropyl acetate	4.449	87	38622	52.37	ug/L	#	91
60)	1,2-dichloroethane	4.498	62	143269	47.68	ug/L		96
61)	trichloroethene	4.949	130	123707	51.41	ug/L		100
62)	ethyl acrylate	4.962	55	208289	56.75	ug/L		99
63)	2-nitropropane	5.486	41	33926	51.42	ug/L		94
64)	2-chloroethyl vinyl ether	5.522	63	417080	277.78	ug/L		99
65)	methyl methacrylate	5.144	69	147665	50.59	ug/L		97
66)	1,2-dichloropropane	5.138	63	122265	56.52	ug/L		99
67)	dibromomethane	5.212	93	68645	54.07	ug/L		99
68)	methylcyclohexane	5.138	83	182452	48.21	ug/L		97
69)	bromodichloromethane	5.327	83	145083	54.84	ug/L		99
70)	epichlorohydrin	5.571	57	101006	282.33	ug/L		97
71)	cis-1,3-dichloropropene	5.669	75	189427	54.52	ug/L		96
72)	4-methyl-2-pentanone	5.766	58	284226	230.25	ug/L		97
73)	3-methyl-1-butanol	5.785	55	208695	1099.15	ug/L		96
76)	toluene	5.955	92	302939	51.82	ug/L		98
77)	trans-1,3-dichloropropene	6.120	75	168212	51.46	ug/L		99
78)	ethyl methacrylate	6.144	69	189935	55.47	ug/L		98
79)	1,1,2-trichloroethane	6.291	83	89333	53.98	ug/L		95
80)	tetrachloroethene	6.394	164	106347	51.92	ug/L		99
81)	1,3-dichloropropane	6.437	76	185909	53.77	ug/L		99
82)	2-hexanone	6.455	58	294505	226.96	ug/L		98
83)	butyl acetate	6.541	56	116170	56.68	ug/L		98
84)	dibromochloromethane	6.626	129	115266	58.80	ug/L		97
85)	1,2-dibromoethane	6.742	107	148062	56.37	ug/L		99
86)	n-butyl ether	7.223	57	516721	55.26	ug/L		99
87)	chlorobenzene	7.168	112	313975	50.44	ug/L		99
88)	1,1,1,2-tetrachloroethane	7.242	131	108484	53.22	ug/L		99
89)	ethylbenzene	7.248	91	557416	52.08	ug/L		98
90)	m,p-xylene	7.364	106	429194	102.10	ug/L		98
91)	o-xylene	7.717	106	206882	51.07	ug/L		97
92)	styrene	7.735	104	354128	52.12	ug/L		99
93)	bromoform	7.906	173	85921	59.11	ug/L		98
94)	butyl acrylate	7.638	55	283050	58.73	ug/L		98
95)	n-amyl acetate	7.845	70	116467	55.82	ug/L		96
96)	isopropylbenzene	8.059	105	524139	51.27	ug/L		99
97)	cis-1,4-dichloro-2-butene	8.101	88	47300	43.13	ug/L		90
100)	bromobenzene	8.369	156	136202	50.04	ug/L		98
101)	1,1,2,2-tetrachloroethane	8.333	83	160599	53.95	ug/L		99
102)	trans-1,4-dichloro-2-b...	8.369	53	38308	43.14	ug/L		92
103)	1,2,3-trichloropropane	8.394	110	51492	49.96	ug/L		99
104)	n-propylbenzene	8.449	91	596682	50.90	ug/L		99
105)	2-chlorotoluene	8.546	126	121649	49.84	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146920.d
Acq On : 23 Apr 2019 7:32 am
Operator : payalr
Sample : bs Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:24 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

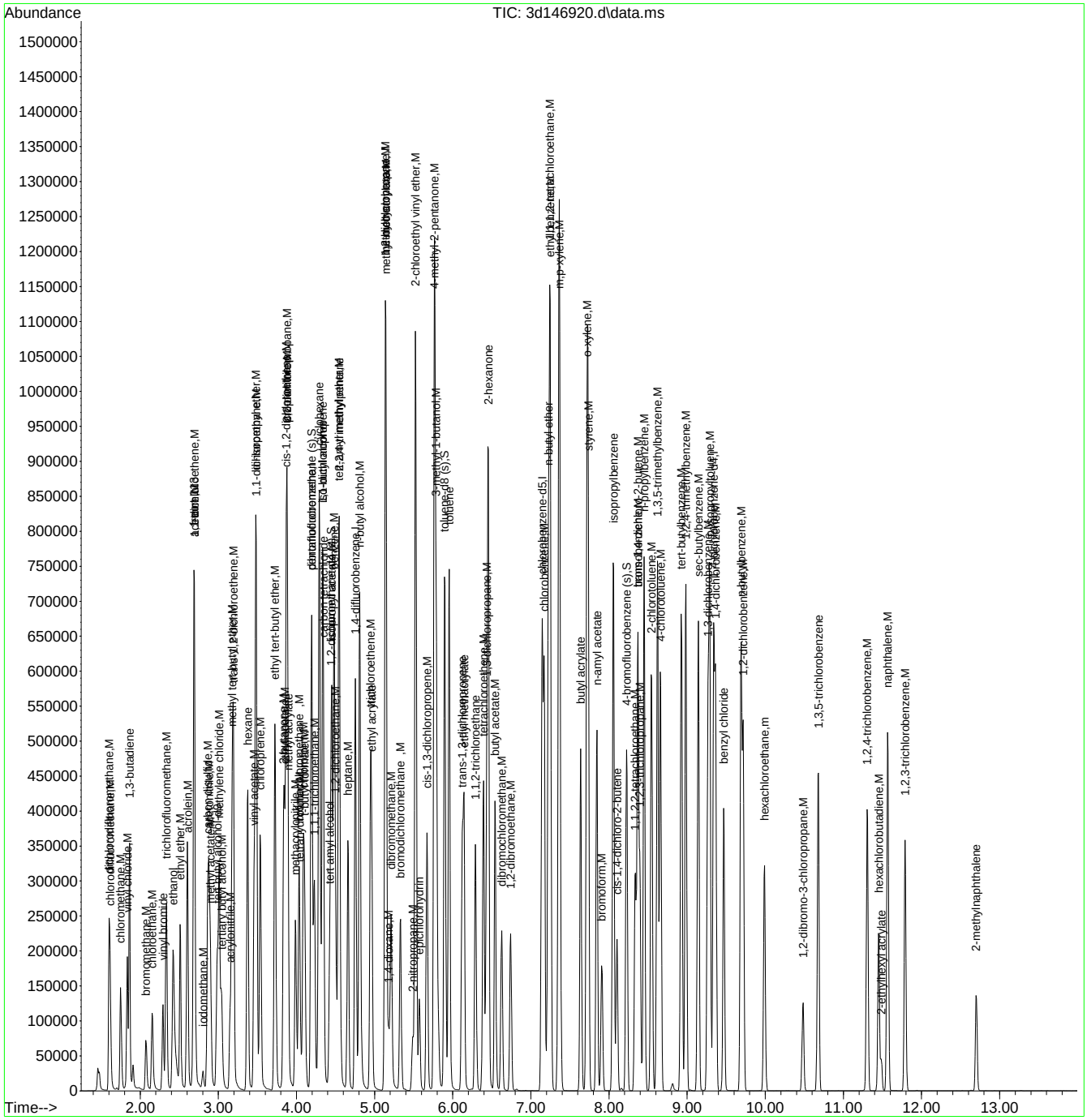
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.662	126	122241	50.02	ug/L	96
107) 1,3,5-trimethylbenzene	8.619	105	413923	50.05	ug/L	99
108) tert-butylbenzene	8.924	134	90762	49.24	ug/L	93
109) 1,2,4-trimethylbenzene	8.985	105	411903	50.50	ug/L	99
110) sec-butylbenzene	9.144	105	485132	50.23	ug/L	99
111) 1,3-dichlorobenzene	9.266	146	237297	49.33	ug/L	99
112) p-isopropyltoluene	9.290	119	422174	50.16	ug/L	97
113) 1,4-dichlorobenzene	9.363	146	242230	49.62	ug/L	99
114) benzyl chloride	9.467	91	291136	51.14	ug/L	99
115) 1,2-dichlorobenzene	9.717	146	224648	48.88	ug/L	98
116) n-butylbenzene	9.692	92	190768	51.29	ug/L	98
117) 1,2-dibromo-3-chloropr...	10.485	75	31256	51.06	ug/L	93
118) 1,3,5-trichlorobenzene	10.680	180	159872	49.23	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	11699	7.45	ug/L	94
120) 1,2,4-trichlorobenzene	11.302	180	141471	50.31	ug/L	98
121) hexachlorobutadiene	11.454	225	51432	46.46	ug/L	99
122) naphthalene	11.564	128	419910	47.05	ug/L	100
123) 1,2,3-trichlorobenzene	11.790	180	125461	48.71	ug/L	98
124) hexachloroethane	9.991	201	63767	53.86	ug/L	97
125) 2-methylnaphthalene	12.698	142	70720	19.29	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146920.d
Acq On : 23 Apr 2019 7:32 am
Operator : payalr
Sample : bs Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:24 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146921.d
Acq On : 23 Apr 2019 7:57 am
Operator : payalr
Sample : bsd Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	2.987	65	202011	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	295004	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	409439	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	357448	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	170333	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.194	113	103620	49.43	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.86%				
53) 1,2-dichloroethane-d4 (s)	4.444	65	106896	46.50	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 93.00%				
75) toluene-d8 (s)	5.894	98	452499	49.84	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.68%				
99) 4-bromofluorobenzene (s)	8.223	95	155822	48.45	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.90%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	125844	240.66	ug/L		99
3) ethanol	2.420	45	263239	5428.56	ug/L		98
4) 1,4-dioxane	5.181	88	60136	1277.59	ug/L		100
6) chlorodifluoromethane	1.615	51	114768	42.77	ug/L		99
7) dichlorodifluoromethane	1.603	85	157311	52.91	ug/L		100
8) chloromethane	1.749	50	127645	46.16	ug/L		99
9) vinyl chloride	1.834	62	148602	53.03	ug/L		99
10) 1,3-butadiene	1.865	54	104898	45.27	ug/L		98
11) bromomethane	2.072	94	43519	41.52	ug/L		98
12) chloroethane	2.151	64	86846	50.11	ug/L		98
13) trichlorofluoromethane	2.334	101	177716	50.45	ug/L		99
14) vinyl bromide	2.292	106	76536	46.80	ug/L		99
15) ethyl ether	2.511	74	73135	56.06	ug/L		96
16) acrolein	2.609	56	25372	49.24	ug/L		96
17) freon 113	2.688	151	85133	44.11	ug/L		96
18) 1,1-dichloroethene	2.688	96	105022	53.66	ug/L		98
19) acetone	2.694	58	65808	223.72	ug/L	#	86
20) acetonitrile	2.883	41	247627	551.78	ug/L		99
21) iodomethane	2.804	142	43109	53.20	ug/L		98
22) carbon disulfide	2.858	76	271739	50.93	ug/L		97
23) methylene chloride	3.011	84	112420	51.19	ug/L		96
24) methyl acetate	2.901	43	127470	52.27	ug/L		98
25) methyl tert butyl ether	3.176	73	351907	53.76	ug/L		99
26) trans-1,2-dichloroethene	3.194	96	114561	52.07	ug/L		95
27) di-isopropyl ether	3.480	45	410088	55.66	ug/L		98
28) 2-butanone	3.834	72	90003	225.92	ug/L		99
29) 1,1-dichloroethane	3.486	63	200047	54.09	ug/L		99
30) chloroprene	3.535	53	186992	53.00	ug/L		97
31) acrylonitrile	3.151	53	65933	58.33	ug/L		99
32) hexane	3.377	56	86098	46.45	ug/L		100
33) vinyl acetate	3.456	86	34722	55.14	ug/L	#	85
34) ethyl tert-butyl ether	3.724	59	378049	53.99	ug/L		99
35) ethyl acetate	3.846	45	26394	53.30	ug/L	#	26
36) 2,2-dichloropropane	3.877	77	162885	51.08	ug/L		99
37) cis-1,2-dichloroethene	3.864	96	126320	53.37	ug/L		98
38) methyl acrylate	3.895	85	25616	55.12	ug/L	#	90
39) propionitrile	3.877	54	279080	569.57	ug/L		80
40) bromochloromethane	4.029	128	58127	55.20	ug/L		88
41) tetrahydrofuran	4.041	72	23918	54.01	ug/L		94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146921.d
Acq On : 23 Apr 2019 7:57 am
Operator : payalr
Sample : bsd Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42)	chloroform	4.084	85	121321	50.27	ug/L	98
43)	t-butyl formate	4.108	59	95507	47.53	ug/L	91
45)	methacrylonitrile	3.986	67	67399	57.31	ug/L	98
46)	1,1,1-trichloroethane	4.230	97	165958	50.00	ug/L	99
47)	cyclohexane	4.291	84	181381	51.50	ug/L	96
48)	1,1-dichloropropene	4.334	75	160891	52.54	ug/L	99
49)	iso-butyl alcohol	4.334	43	104641	535.33	ug/L	96
50)	carbon tetrachloride	4.346	117	140526	51.83	ug/L	99
51)	tert amyl alcohol	4.425	55	44590	266.53	ug/L	98
54)	n-butyl alcohol	4.809	56	375522	2845.96	ug/L	99
55)	2,2,4-trimethylpentane	4.547	57	297976	51.32	ug/L	97
56)	benzene	4.480	78	479058	54.33	ug/L	98
57)	tert-amyl methyl ether	4.541	87	88589	51.68	ug/L	92
58)	heptane	4.657	71	77098	51.41	ug/L	97
59)	isopropyl acetate	4.450	87	39507	54.31	ug/L	93
60)	1,2-dichloroethane	4.498	62	142602	48.11	ug/L	94
61)	trichloroethene	4.950	130	125050	52.69	ug/L	99
62)	ethyl acrylate	4.962	55	206437	57.02	ug/L	98
63)	2-nitropropane	5.486	41	37130	57.05	ug/L	95
64)	2-chloroethyl vinyl ether	5.523	63	416254	281.07	ug/L	99
65)	methyl methacrylate	5.145	69	150077	52.13	ug/L	95
66)	1,2-dichloropropane	5.139	63	120571	56.51	ug/L	99
67)	dibromomethane	5.212	93	67410	53.83	ug/L	99
68)	methylcyclohexane	5.139	83	182891	49.00	ug/L	98
69)	bromodichloromethane	5.328	83	145423	55.72	ug/L	99
70)	epichlorohydrin	5.571	57	101264	286.97	ug/L	98
71)	cis-1,3-dichloropropene	5.669	75	190366	55.55	ug/L	96
72)	4-methyl-2-pentanone	5.766	58	280246	230.16	ug/L	97
73)	3-methyl-1-butanol	5.785	55	211914	1131.55	ug/L	97
76)	toluene	5.955	92	303957	52.45	ug/L	99
77)	trans-1,3-dichloropropene	6.120	75	171009	52.76	ug/L	99
78)	ethyl methacrylate	6.144	69	189609	55.85	ug/L	98
79)	1,1,2-trichloroethane	6.291	83	88982	54.23	ug/L	94
80)	tetrachloroethene	6.394	164	106947	52.66	ug/L	98
81)	1,3-dichloropropane	6.437	76	185418	54.09	ug/L	99
82)	2-hexanone	6.455	58	293763	228.35	ug/L	98
83)	butyl acetate	6.541	56	116611	57.39	ug/L	98
84)	dibromochloromethane	6.626	129	113260	58.27	ug/L	99
85)	1,2-dibromoethane	6.742	107	146743	56.35	ug/L	99
86)	n-butyl ether	7.223	57	516015	55.67	ug/L	99
87)	chlorobenzene	7.169	112	313893	50.86	ug/L	98
88)	1,1,1,2-tetrachloroethane	7.242	131	107352	53.12	ug/L	99
89)	ethylbenzene	7.248	91	557507	52.53	ug/L	100
90)	m,p-xylene	7.364	106	432124	103.68	ug/L	99
91)	o-xylene	7.717	106	206698	51.47	ug/L	99
92)	styrene	7.729	104	355583	52.78	ug/L	96
93)	bromoform	7.906	173	85984	59.66	ug/L	96
94)	butyl acrylate	7.638	55	282887	59.20	ug/L	96
95)	n-amyl acetate	7.845	70	116390	56.27	ug/L	97
96)	isopropylbenzene	8.053	105	529245	52.21	ug/L	98
97)	cis-1,4-dichloro-2-butene	8.101	88	49486	45.51	ug/L	93
100)	bromobenzene	8.370	156	137278	50.80	ug/L	97
101)	1,1,2,2-tetrachloroethane	8.333	83	159412	53.95	ug/L	99
102)	trans-1,4-dichloro-2-b...	8.370	53	38928	44.16	ug/L	89
103)	1,2,3-trichloropropane	8.394	110	51271	50.11	ug/L	99
104)	n-propylbenzene	8.449	91	600812	51.63	ug/L	99
105)	2-chlorotoluene	8.546	126	121534	50.16	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146921.d
Acq On : 23 Apr 2019 7:57 am
Operator : payalr
Sample : bsd Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

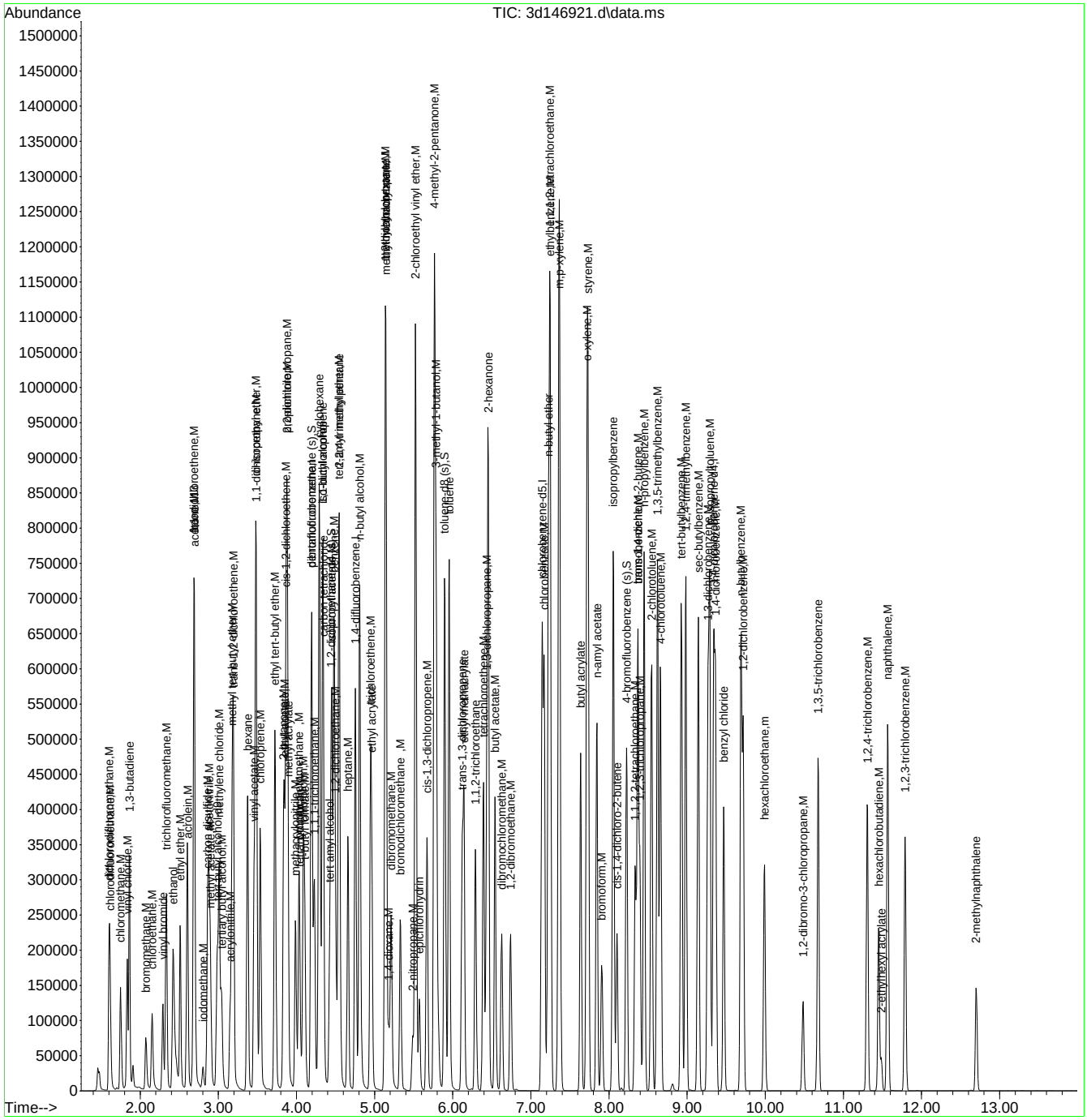
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.662	126	120852	49.82	ug/L	97
107) 1,3,5-trimethylbenzene	8.620	105	414970	50.55	ug/L	99
108) tert-butylbenzene	8.924	134	91199	49.85	ug/L	97
109) 1,2,4-trimethylbenzene	8.985	105	412748	50.97	ug/L	99
110) sec-butylbenzene	9.144	105	488216	50.92	ug/L	99
111) 1,3-dichlorobenzene	9.266	146	240452	50.35	ug/L	97
112) p-isopropyltoluene	9.290	119	423384	50.67	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	244674	50.49	ug/L	98
114) benzyl chloride	9.467	91	293437	51.92	ug/L	99
115) 1,2-dichlorobenzene	9.717	146	227722	49.92	ug/L	98
116) n-butylbenzene	9.686	92	196318	53.17	ug/L	97
117) 1,2-dibromo-3-chloropr...	10.485	75	30828	50.73	ug/L	90
118) 1,3,5-trichlorobenzene	10.674	180	161947	50.24	ug/L	98
119) 2-ethylhexyl acrylate	11.485	70	12262	7.87	ug/L	94
120) 1,2,4-trichlorobenzene	11.308	180	144709	51.84	ug/L	100
121) hexachlorobutadiene	11.454	225	53686	48.85	ug/L	98
122) naphthalene	11.564	128	431027	48.65	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	129239	50.55	ug/L	99
124) hexachloroethane	9.991	201	65555	55.78	ug/L	97
125) 2-methylnaphthalene	12.698	142	76282	20.96	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146921.d
Acq On : 23 Apr 2019 7:57 am
Operator : payalr
Sample : bsd Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:35 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146937.D
Acq On : 23 Apr 2019 2:52 pm
Operator : JessicaP
Sample : JC86512-8ms
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 23 15:50:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.986	65	195840	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	285793	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	398715	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	349318	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	164293	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.194	113	103597	51.01	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.02%				
53) 1,2-dichloroethane-d4 (s)	4.444	65	105877	47.29	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 94.58%				
75) toluene-d8 (s)	5.894	98	444914	50.15	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.30%				
99) 4-bromofluorobenzene (s)	8.223	95	154492	49.80	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.60%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	128986	254.44	ug/L		98
3) ethanol	2.420	45	256619	5458.79	ug/L		99
4) 1,4-dioxane	5.181	88	56960	1248.24	ug/L		93
6) chlorodifluoromethane	1.615	51	118414	45.56	ug/L		99
7) dichlorodifluoromethane	1.603	85	156918	54.48	ug/L		99
8) chloromethane	1.749	50	124235	46.38	ug/L		100
9) vinyl chloride	1.834	62	150494	55.44	ug/L		100
10) 1,3-butadiene	1.859	54	110149	49.07	ug/L		98
11) bromomethane	2.072	94	34366	33.84	ug/L		100
12) chloroethane	2.151	64	86198	51.34	ug/L		99
13) trichlorofluoromethane	2.334	101	181248	53.11	ug/L		98
14) vinyl bromide	2.292	106	75423	47.61	ug/L		98
15) ethyl ether	2.511	74	70473	55.76	ug/L		98
16) acrolein	2.609	56	23034	46.15	ug/L		99
17) freon 113	2.688	151	87325	46.71	ug/L		96
18) 1,1-dichloroethene	2.688	96	103770	54.73	ug/L		99
19) acetone	2.694	58	62463	219.19	ug/L	#	86
20) acetonitrile	2.877	41	241070	554.49	ug/L		99
21) iodomethane	2.804	142	23466	29.89	ug/L		99
22) carbon disulfide	2.858	76	267891	51.83	ug/L		99
23) methylene chloride	3.011	84	107649	50.60	ug/L		96
24) methyl acetate	2.901	43	122128	51.69	ug/L		98
25) methyl tert butyl ether	3.175	73	331551	52.28	ug/L		98
26) trans-1,2-dichloroethene	3.194	96	109589	51.42	ug/L		94
27) di-isopropyl ether	3.480	45	397310	55.67	ug/L		97
28) 2-butanone	3.834	72	83789	217.10	ug/L		98
29) 1,1-dichloroethane	3.486	63	193039	53.88	ug/L		98
30) chloroprene	3.535	53	181878	53.22	ug/L		98
31) acrylonitrile	3.151	53	62537	57.11	ug/L		98
32) hexane	3.371	56	87717	48.85	ug/L		96
33) vinyl acetate	3.456	86	30464	49.94	ug/L	#	92
34) ethyl tert-butyl ether	3.724	59	358439	52.84	ug/L		98
35) ethyl acetate	3.846	45	25299	52.74	ug/L	#	29
36) 2,2-dichloropropane	3.877	77	150764	48.80	ug/L		97
37) cis-1,2-dichloroethene	3.864	96	126657	55.23	ug/L		98
38) methyl acrylate	3.895	85	23688	52.61	ug/L	#	86
39) propionitrile	3.877	54	264646	557.52	ug/L		81
40) bromochloromethane	4.029	128	54981	53.89	ug/L		89
41) tetrahydrofuran	4.041	72	22271	51.91	ug/L	#	84
42) chloroform	4.084	85	116267	49.73	ug/L		99
43) t-butyl formate	4.102	59	15751	8.09	ug/L	#	77

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146937.D
Acq On : 23 Apr 2019 2:52 pm
Operator : JessicaP
Sample : JC86512-8ms
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 23 15:50:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) methacrylonitrile	3.986	67	63256	55.52	ug/L		99
46) 1,1,1-trichloroethane	4.230	97	208663	64.90	ug/L		99
47) cyclohexane	4.291	84	185516	54.37	ug/L		96
48) 1,1-dichloropropene	4.334	75	157900	53.23	ug/L		99
49) iso-butyl alcohol	4.334	43	99785	526.94	ug/L		98
50) carbon tetrachloride	4.340	117	135333	51.52	ug/L		99
51) tert amyl alcohol	4.425	55	45020	277.77	ug/L		89
54) n-butyl alcohol	4.809	56	361265	2811.55	ug/L		98
55) 2,2,4-trimethylpentane	4.547	57	313285	55.41	ug/L		94
56) benzene	4.480	78	456401	53.15	ug/L		99
57) tert-amyl methyl ether	4.541	87	83243	49.87	ug/L		94
58) heptane	4.657	71	77467	53.05	ug/L		97
59) isopropyl acetate	4.450	87	35488	50.09	ug/L	#	88
60) 1,2-dichloroethane	4.498	62	135754	47.03	ug/L		97
61) trichloroethene	4.950	130	157353	68.08	ug/L		98
62) ethyl acrylate	4.962	55	192399	54.57	ug/L		98
63) 2-nitropropane	5.486	41	31153	49.15	ug/L		96
65) methyl methacrylate	5.145	69	141908	50.62	ug/L		97
66) 1,2-dichloropropane	5.139	63	115354	55.52	ug/L		97
67) dibromomethane	5.212	93	63411	52.00	ug/L		98
68) methylcyclohexane	5.139	83	186136	51.21	ug/L		98
69) bromodichloromethane	5.327	83	136290	53.63	ug/L		98
70) epichlorohydrin	5.571	57	75044	218.38	ug/L		96
71) cis-1,3-dichloropropene	5.669	75	177554	53.20	ug/L		96
72) 4-methyl-2-pentanone	5.766	58	267004	225.19	ug/L		98
73) 3-methyl-1-butanol	5.785	55	200390	1098.79	ug/L		96
76) toluene	5.955	92	285747	50.45	ug/L		99
77) trans-1,3-dichloropropene	6.120	75	156964	49.56	ug/L		98
78) ethyl methacrylate	6.144	69	176394	53.16	ug/L		99
79) 1,1,2-trichloroethane	6.291	83	84155	52.48	ug/L		94
80) tetrachloroethene	6.394	164	1135569	572.16	ug/L		99
81) 1,3-dichloropropane	6.437	76	173762	51.87	ug/L		98
82) 2-hexanone	6.455	58	276554	219.97	ug/L		98
83) butyl acetate	6.541	56	105310	53.03	ug/L		98
84) dibromochloromethane	6.626	129	104412	54.97	ug/L		98
85) 1,2-dibromoethane	6.742	107	139226	54.70	ug/L		100
86) n-butyl ether	7.223	57	488664	53.94	ug/L		98
87) chlorobenzene	7.169	112	296459	49.15	ug/L		99
88) 1,1,1,2-tetrachloroethane	7.242	131	100350	50.81	ug/L		97
89) ethylbenzene	7.248	91	528643	50.97	ug/L		99
90) m,p-xylene	7.364	106	407679	100.10	ug/L		98
91) o-xylene	7.717	106	193854	49.39	ug/L		97
92) styrene	7.736	104	331952	50.42	ug/L		98
93) bromoform	7.906	173	78640	55.83	ug/L		98
94) butyl acrylate	7.638	55	262766	56.27	ug/L		96
95) n-amyl acetate	7.845	70	104583	51.73	ug/L		97
96) isopropylbenzene	8.053	105	501273	50.60	ug/L		99
97) cis-1,4-dichloro-2-butene	8.101	88	44052	41.46	ug/L		95
100) bromobenzene	8.370	156	126439	48.51	ug/L		98
101) 1,1,2,2-tetrachloroethane	8.333	83	148797	52.21	ug/L		99
102) trans-1,4-dichloro-2-b...	8.370	53	35998	42.34	ug/L		95
103) 1,2,3-trichloropropane	8.394	110	47487	48.12	ug/L		99
104) n-propylbenzene	8.449	91	568696	50.67	ug/L		98
105) 2-chlorotoluene	8.546	126	113605	48.61	ug/L		96
106) 4-chlorotoluene	8.656	126	112752	48.19	ug/L		96
107) 1,3,5-trimethylbenzene	8.620	105	388472	49.06	ug/L		98
108) tert-butylbenzene	8.924	134	85827	48.64	ug/L		99
109) 1,2,4-trimethylbenzene	8.985	105	388506	49.74	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146937.D
Acq On : 23 Apr 2019 2:52 pm
Operator : JessicaP
Sample : JC86512-8ms
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 23 15:50:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

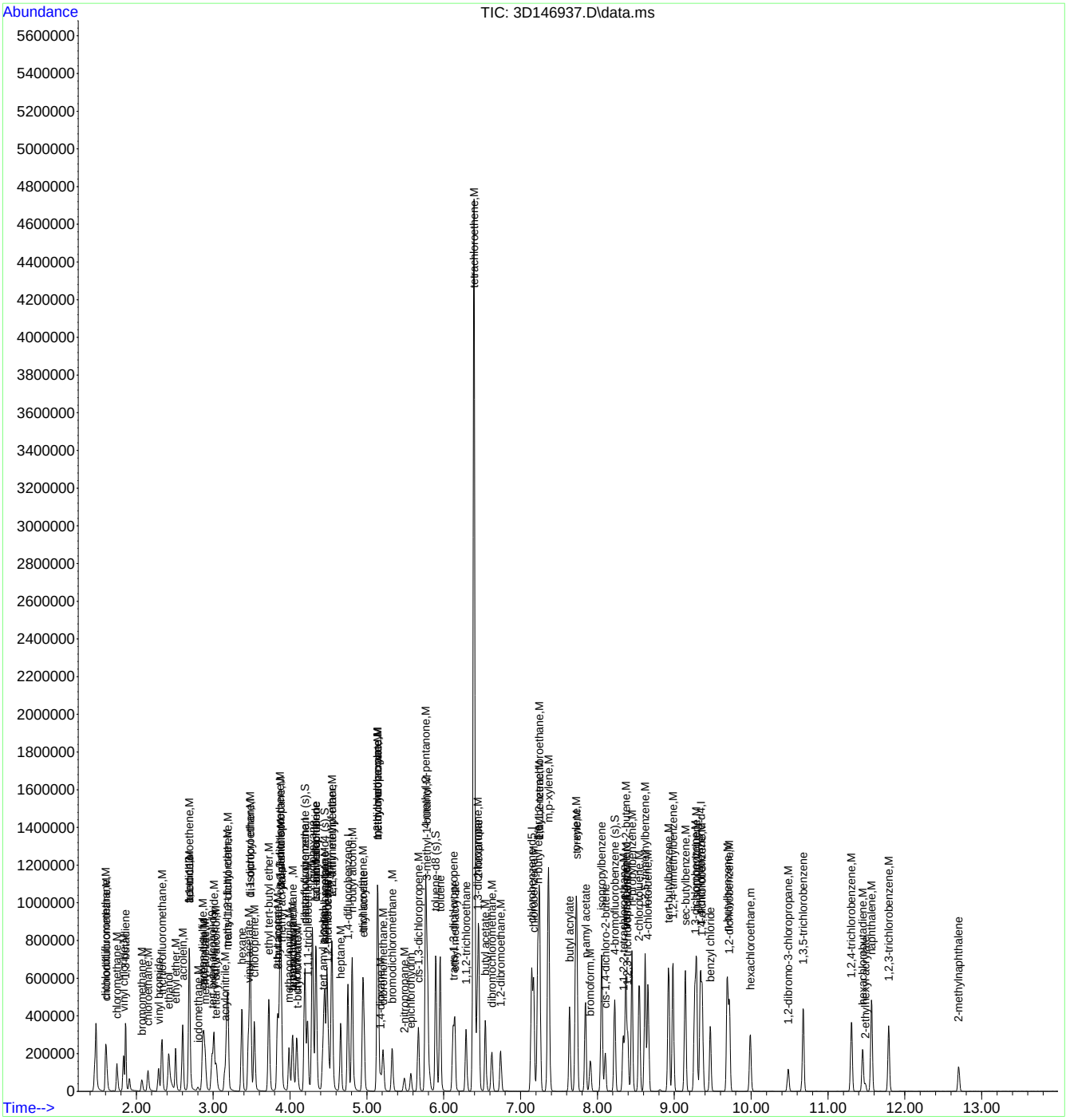
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) sec-butylbenzene	9.144	105	469544	50.77	ug/L	99
111) 1,3-dichlorobenzene	9.266	146	221990	48.20	ug/L	98
112) p-isopropyltoluene	9.290	119	402009	49.88	ug/L	98
113) 1,4-dichlorobenzene	9.363	146	225975	48.34	ug/L	98
114) benzyl chloride	9.467	91	252701	46.36	ug/L	100
115) 1,2-dichlorobenzene	9.717	146	210958	47.94	ug/L	98
116) n-butylbenzene	9.686	92	185030	51.95	ug/L	98
117) 1,2-dibromo-3-chloropr...	10.479	75	28874	49.26	ug/L	98
118) 1,3,5-trichlorobenzene	10.680	180	150480	48.40	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	10797	7.18	ug/L	99
120) 1,2,4-trichlorobenzene	11.308	180	132118	49.07	ug/L	99
121) hexachlorobutadiene	11.454	225	51774	48.85	ug/L	96
122) naphthalene	11.564	128	394954	46.22	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	118330	47.98	ug/L	98
124) hexachloroethane	9.991	201	60346	53.23	ug/L	98
125) 2-methylnaphthalene	12.704	142	67933	19.35	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146937.D
Acq On : 23 Apr 2019 2:52 pm
Operator : JessicaP
Sample : JC86512-8ms
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 23 15:50:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146938.D
Acq On : 23 Apr 2019 3:17 pm
Operator : JessicaP
Sample : JC86512-8msd
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 23 15:50:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.986	65	185325	500.00	ug/L		0.00
5) pentafluorobenzene	4.193	168	285672	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	398991	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	349219	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	167580	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.193	113	102376	50.43	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.86%				
53) 1,2-dichloroethane-d4 (s)	4.443	65	102846	45.91	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 91.82%				
75) toluene-d8 (s)	5.894	98	443140	49.96	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.92%				
99) 4-bromofluorobenzene (s)	8.223	95	154867	48.94	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 97.88%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	135305	282.04	ug/L		99
3) ethanol	2.419	45	245428	5516.96	ug/L		100
4) 1,4-dioxane	5.181	88	54787	1268.74	ug/L		96
6) chlorodifluoromethane	1.615	51	119660	46.05	ug/L		99
7) dichlorodifluoromethane	1.602	85	151808	52.73	ug/L		99
8) chloromethane	1.749	50	127406	47.58	ug/L		100
9) vinyl chloride	1.834	62	149550	55.11	ug/L		99
10) 1,3-butadiene	1.865	54	109902	48.98	ug/L		97
11) bromomethane	2.072	94	45604	44.93	ug/L		100
12) chloroethane	2.151	64	87520	52.15	ug/L		96
13) trichlorofluoromethane	2.334	101	179943	52.75	ug/L		98
14) vinyl bromide	2.291	106	75184	47.48	ug/L		98
15) ethyl ether	2.511	74	70807	56.05	ug/L		98
16) acrolein	2.608	56	22260	44.61	ug/L		97
17) freon 113	2.688	151	89667	47.98	ug/L		96
18) 1,1-dichloroethene	2.694	96	106212	56.04	ug/L		96
19) acetone	2.694	58	61623	216.33	ug/L	#	80
20) acetonitrile	2.883	41	234429	539.44	ug/L		96
21) iodomethane	2.803	142	42685	54.39	ug/L		98
22) carbon disulfide	2.864	76	276873	53.59	ug/L		96
23) methylene chloride	3.011	84	109281	51.38	ug/L		95
24) methyl acetate	2.901	43	117416	49.72	ug/L		99
25) methyl tert butyl ether	3.175	73	335256	52.89	ug/L		98
26) trans-1,2-dichloroethene	3.194	96	112298	52.71	ug/L		97
27) di-isopropyl ether	3.480	45	406179	56.93	ug/L		97
28) 2-butanone	3.834	72	83107	215.42	ug/L		96
29) 1,1-dichloroethane	3.486	63	199452	55.69	ug/L		98
30) chloroprene	3.535	53	187997	55.03	ug/L		98
31) acrylonitrile	3.151	53	60586	55.35	ug/L		99
32) hexane	3.377	56	89006	49.58	ug/L		97
33) vinyl acetate	3.456	86	30963	50.78	ug/L	#	91
34) ethyl tert-butyl ether	3.724	59	367738	54.24	ug/L		99
35) ethyl acetate	3.846	45	25095	52.34	ug/L	#	28
36) 2,2-dichloropropane	3.876	77	156552	50.70	ug/L		99
37) cis-1,2-dichloroethene	3.870	96	129772	56.61	ug/L		98
38) methyl acrylate	3.895	85	23777	52.83	ug/L		93
39) propionitrile	3.876	54	259397	546.69	ug/L		80
40) bromochloromethane	4.029	128	56272	55.18	ug/L		89
41) tetrahydrofuran	4.041	72	21492	50.11	ug/L		94
42) chloroform	4.084	85	118232	50.59	ug/L		99
43) t-butyl formate	4.102	59	14664	7.54	ug/L	#	76

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146938.D
Acq On : 23 Apr 2019 3:17 pm
Operator : JessicaP
Sample : JC86512-8msd
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 23 15:50:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) methacrylonitrile	3.986	67	62789	55.13	ug/L	98
46) 1,1,1-trichloroethane	4.230	97	216966	67.51	ug/L	98
47) cyclohexane	4.291	84	183164	53.70	ug/L	94
48) 1,1-dichloropropene	4.334	75	163057	54.99	ug/L	99
49) iso-butyl alcohol	4.334	43	96042	507.39	ug/L	96
50) carbon tetrachloride	4.346	117	141621	53.94	ug/L	99
51) tert amyl alcohol	4.425	55	41906	258.67	ug/L	93
54) n-butyl alcohol	4.809	56	342501	2663.67	ug/L	98
55) 2,2,4-trimethylpentane	4.547	57	314315	55.55	ug/L	95
56) benzene	4.480	78	473201	55.07	ug/L	100
57) tert-amyl methyl ether	4.541	87	84655	50.68	ug/L	94
58) heptane	4.657	71	78710	53.86	ug/L	96
59) isopropyl acetate	4.449	87	35623	50.25	ug/L	92
60) 1,2-dichloroethane	4.498	62	139290	48.22	ug/L	97
61) trichloroethene	4.949	130	161473	69.82	ug/L	99
62) ethyl acrylate	4.962	55	192208	54.48	ug/L	100
63) 2-nitropropane	5.486	41	31389	49.49	ug/L	91
65) methyl methacrylate	5.144	69	143122	51.02	ug/L	98
66) 1,2-dichloropropane	5.138	63	119395	57.42	ug/L	98
67) dibromomethane	5.212	93	64451	52.82	ug/L	97
68) methylcyclohexane	5.138	83	188898	51.93	ug/L	98
69) bromodichloromethane	5.333	83	141269	55.55	ug/L	99
70) epichlorohydrin	5.571	57	72526	210.91	ug/L	96
71) cis-1,3-dichloropropene	5.669	75	182696	54.70	ug/L	95
72) 4-methyl-2-pentanone	5.766	58	262832	221.51	ug/L	98
73) 3-methyl-1-butanol	5.785	55	189547	1038.62	ug/L	96
76) toluene	5.955	92	298144	52.66	ug/L	99
77) trans-1,3-dichloropropene	6.120	75	161265	50.93	ug/L	99
78) ethyl methacrylate	6.144	69	178962	53.95	ug/L	99
79) 1,1,2-trichloroethane	6.291	83	85277	53.20	ug/L	96
80) tetrachloroethene	6.394	164	1132672	570.87	ug/L	99
81) 1,3-dichloropropane	6.437	76	177252	52.93	ug/L	98
82) 2-hexanone	6.455	58	271076	215.68	ug/L	98
83) butyl acetate	6.541	56	104683	52.73	ug/L	99
84) dibromochloromethane	6.626	129	107809	56.78	ug/L	99
85) 1,2-dibromoethane	6.742	107	140748	55.32	ug/L	98
86) n-butyl ether	7.223	57	505438	55.81	ug/L	99
87) chlorobenzene	7.168	112	307568	51.01	ug/L	98
88) 1,1,1,2-tetrachloroethane	7.242	131	104543	52.95	ug/L	98
89) ethylbenzene	7.248	91	544932	52.56	ug/L	99
90) m,p-xylene	7.364	106	420867	103.36	ug/L	100
91) o-xylene	7.717	106	200844	51.19	ug/L	99
92) styrene	7.735	104	346358	52.63	ug/L	98
93) bromoform	7.906	173	79829	56.69	ug/L	95
94) butyl acrylate	7.638	55	267158	57.23	ug/L	98
95) n-amyl acetate	7.845	70	105315	52.11	ug/L	98
96) isopropylbenzene	8.052	105	519687	52.48	ug/L	99
97) cis-1,4-dichloro-2-butene	8.101	88	45586	42.92	ug/L	94
100) bromobenzene	8.369	156	131755	49.56	ug/L	99
101) 1,1,2,2-tetrachloroethane	8.333	83	150650	51.82	ug/L	98
102) trans-1,4-dichloro-2-b...	8.369	53	36250	41.80	ug/L	90
103) 1,2,3-trichloropropane	8.394	110	47787	47.47	ug/L	99
104) n-propylbenzene	8.449	91	593573	51.84	ug/L	99
105) 2-chlorotoluene	8.546	126	119217	50.01	ug/L	96
106) 4-chlorotoluene	8.656	126	118462	49.64	ug/L	97
107) 1,3,5-trimethylbenzene	8.619	105	406498	50.33	ug/L	99
108) tert-butylbenzene	8.924	134	89630	49.79	ug/L	97
109) 1,2,4-trimethylbenzene	8.985	105	401640	50.42	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146938.D
Acq On : 23 Apr 2019 3:17 pm
Operator : JessicaP
Sample : JC86512-8msd
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 23 15:50:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

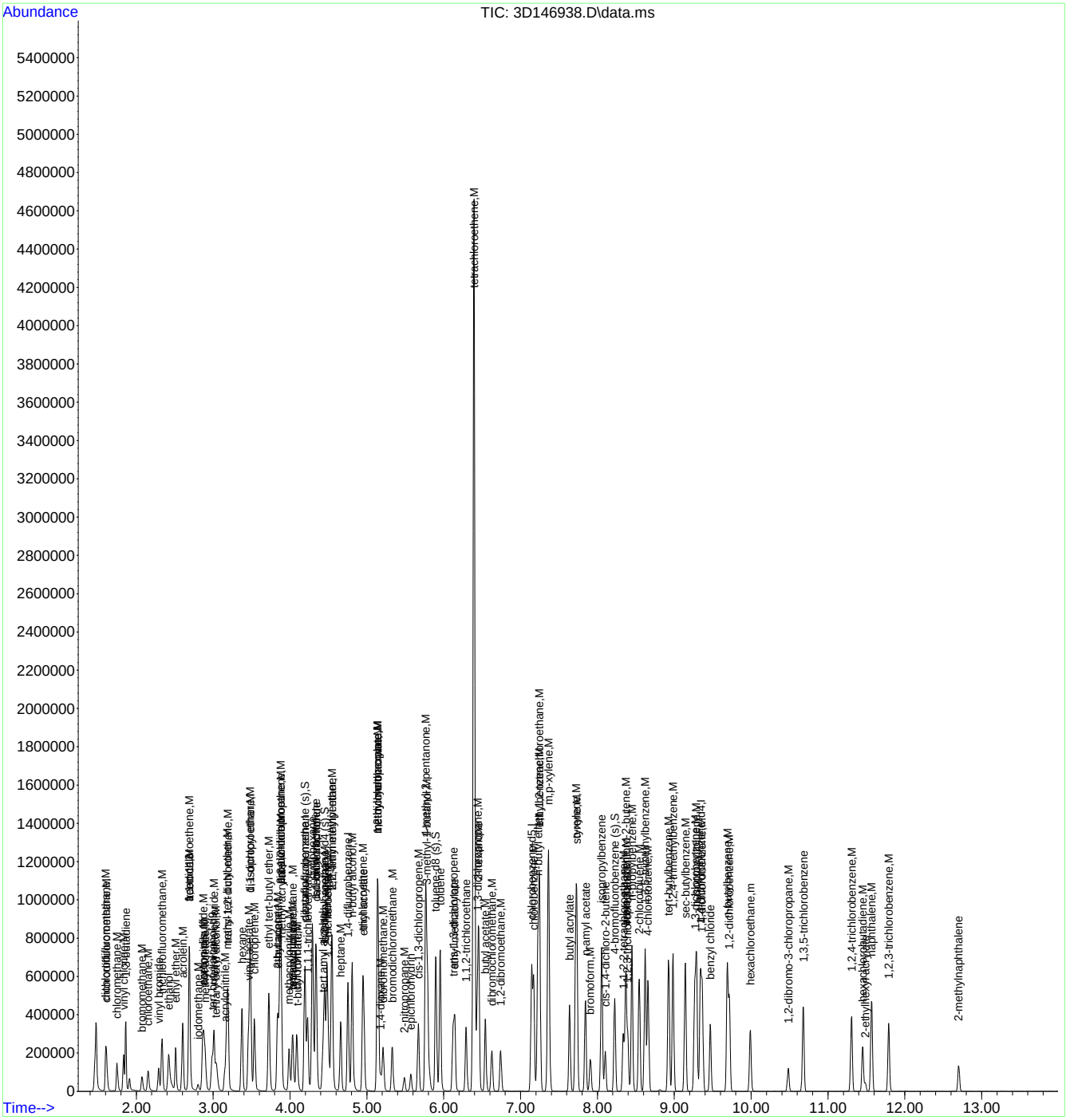
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
110) sec-butylbenzene	9.144	105	492142	52.17 ug/L	99
111) 1,3-dichlorobenzene	9.266	146	233251	49.65 ug/L	98
112) p-isopropyltoluene	9.290	119	416116	50.62 ug/L	99
113) 1,4-dichlorobenzene	9.363	146	236671	49.64 ug/L	99
114) benzyl chloride	9.467	91	254729	45.81 ug/L	99
115) 1,2-dichlorobenzene	9.717	146	220042	49.03 ug/L	96
116) n-butylbenzene	9.692	92	192665	53.04 ug/L	99
117) 1,2-dibromo-3-chloropr...	10.479	75	28318	47.36 ug/L	99
118) 1,3,5-trichlorobenzene	10.680	180	156592	49.37 ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	11651	7.60 ug/L	98
120) 1,2,4-trichlorobenzene	11.308	180	135940	49.50 ug/L	97
121) hexachlorobutadiene	11.454	225	53985	49.93 ug/L	99
122) naphthalene	11.570	128	400536	45.95 ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	121288	48.22 ug/L	98
124) hexachloroethane	9.991	201	63826	55.20 ug/L	97
125) 2-methylnaphthalene	12.698	142	68853	19.23 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6281\
Data File : 3D146938.D
Acq On : 23 Apr 2019 3:17 pm
Operator : JessicaP
Sample : JC86512-8msd
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

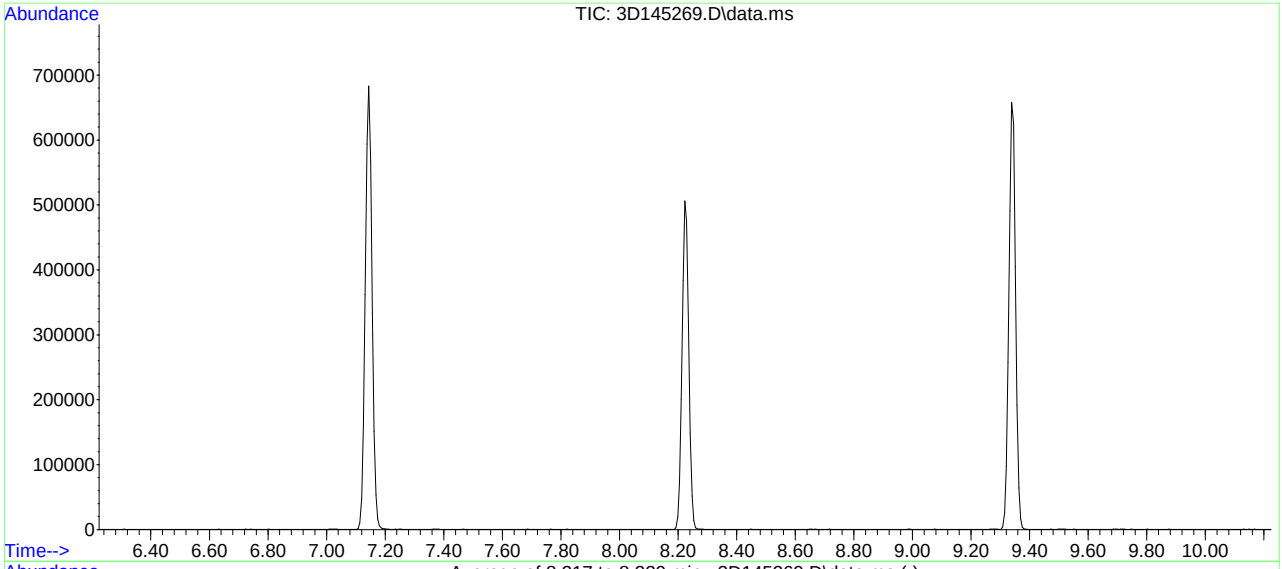
Quant Time: Apr 23 15:50:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

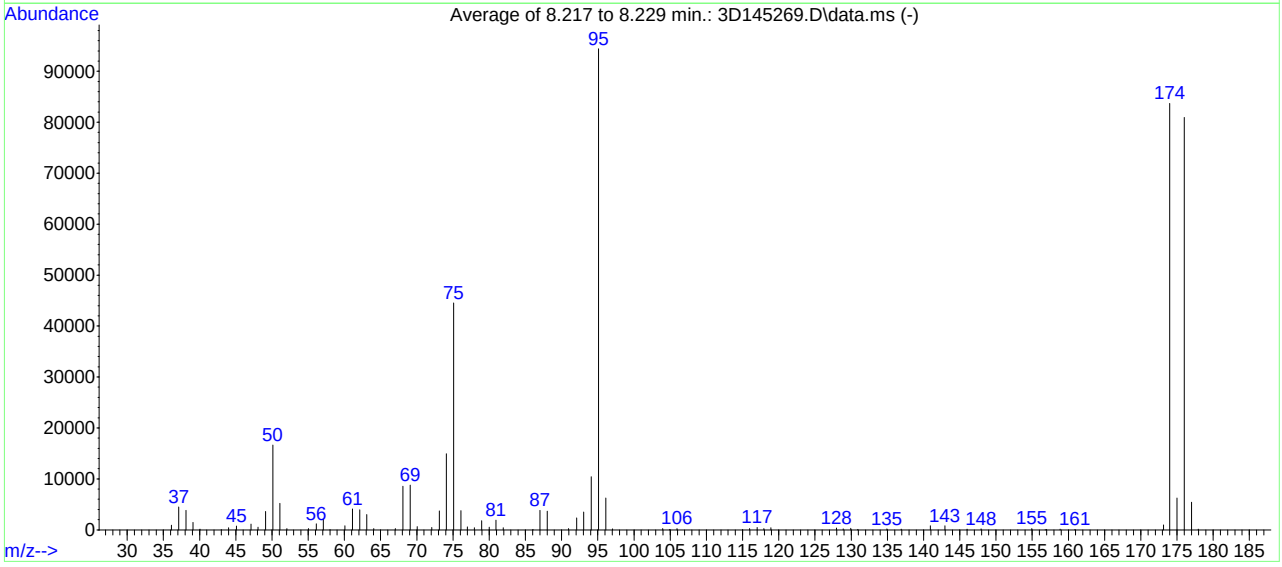


SW-846 Method 8260

Data File : C:\msdchem\1\DATA\V3D6212\3D145269.D Vial: 1
Acq On : 7 Mar 2019 5:57 pm Operator: juntaep
Sample : bfb Inst : MS3D
Misc : MS32815,V3D6212,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019





AutoFind: Scans 1145, 1146, 1147; Background Corrected with Scan 1138

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.6	16616	PASS
75	95	30	60	47.2	44517	PASS
95	95	100	100	100.0	94402	PASS
96	95	5	9	6.6	6251	PASS
173	174	0.00	2	1.2	981	PASS
174	95	50	120	88.6	83682	PASS
175	174	5	9	7.5	6242	PASS
176	174	95	101	96.7	80954	PASS
177	176	5	9	6.7	5431	PASS

3D145269.D M3D6212.M Fri Mar 08 16:35:43 2019 3D

Average of 8.217 to 8.229 min.: 3D145269.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	929	50.10	16616	64.05	266	77.95	389
37.10	4485	51.10	5184	67.05	252	78.95	1810
38.10	3824	52.05	271	68.10	8574	80.00	528
39.10	1481	55.05	252	69.10	8750	80.95	1906
40.05	134	56.10	1178	70.05	642	81.95	407
43.00	33	57.10	2129	72.05	486	86.05	84
44.00	408	58.00	38	73.10	3702	87.00	3819
45.10	770	60.05	819	74.10	14942	88.00	3677
47.10	1123	61.10	4107	75.10	44517	90.95	260
48.05	543	62.10	3916	76.10	3753	92.10	2353
49.10	3618	63.10	2995	77.00	570	93.05	3478

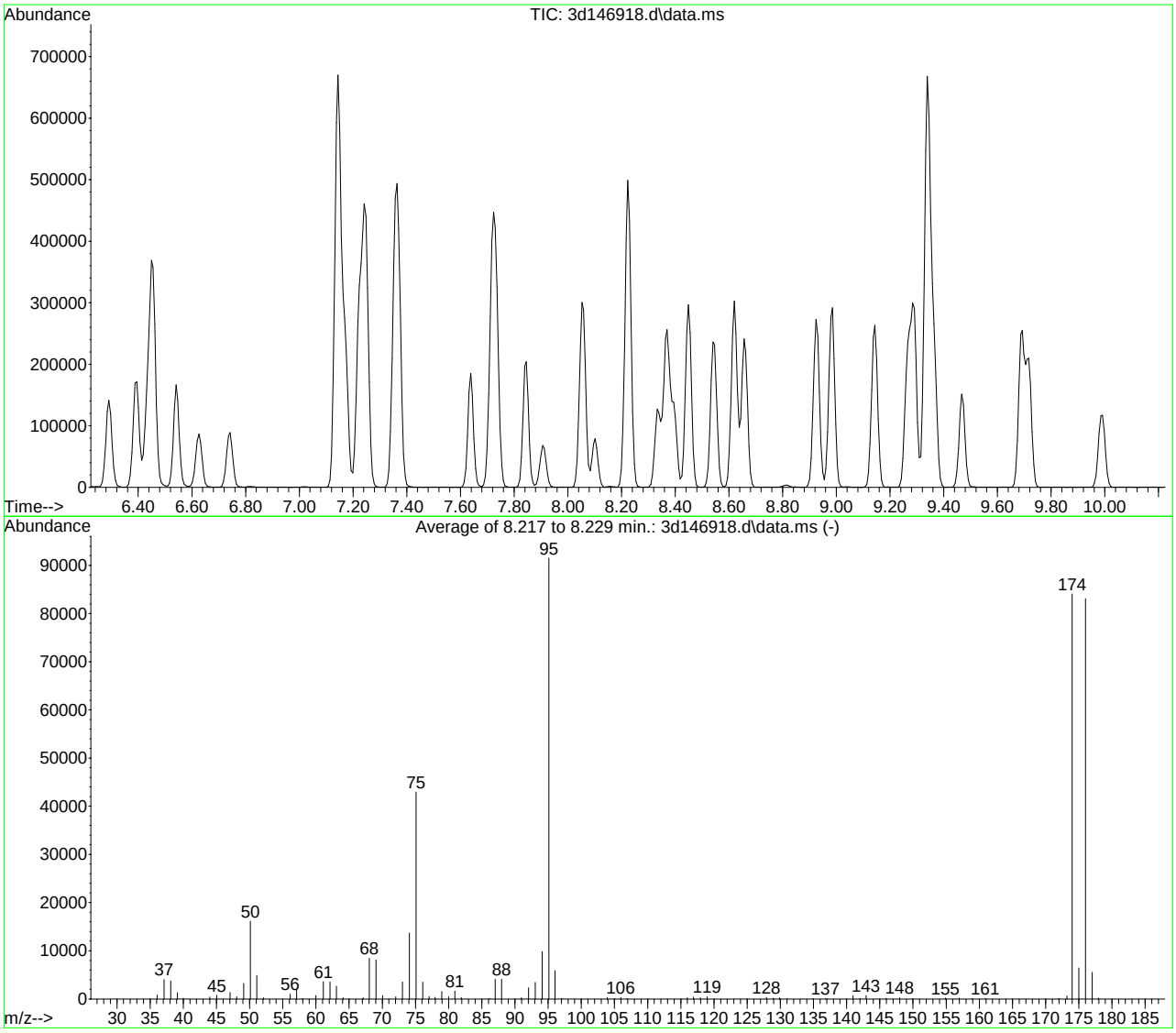
Average of 8.217 to 8.229 min.: 3D145269.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.10	10403	118.90	399	154.95	258		
95.10	94402	127.95	349	156.80	46		
96.10	6251	128.90	172	156.95	110		
97.05	220	129.95	307	158.85	133		
103.95	270	130.90	90	160.90	78		
104.95	69	134.95	178	173.15	981		
105.95	272	136.90	145	174.00	83682		
115.00	40	140.95	781	175.00	6242		
115.95	260	142.95	821	176.00	80954		
117.00	492	146.00	162	177.00	5431		
117.95	261	147.95	211	177.95	154		

SW-846 Method 8260

Data File : C:\msdchem\1\data\ke...d6281-rush\3d146918.d Vial: 2
Acq On : 23 Apr 2019 6:37 am Operator: payalr
Sample : BFB Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3D6212.M (RTE Integrator)
Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019



AutoFind: Scans 1145, 1146, 1147; Background Corrected with Scan 1137

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.6	16123	PASS
75	95	30	60	46.9	42949	PASS
95	95	100	100	100.0	91515	PASS
96	95	5	9	6.5	5910	PASS
173	174	0.00	2	0.8	639	PASS
174	95	50	120	91.8	84056	PASS
175	174	5	9	7.6	6424	PASS
176	174	95	101	98.8	83080	PASS
177	176	5	9	6.6	5509	PASS

3d146918.d M3D6212.M Tue Apr 23 11:57:23 2019

Average of 8.217 to 8.229 min.: 3d146918.d\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	844	51.10	4864	68.05	8461	80.00	480
37.10	4048	52.10	226	69.05	8151	80.95	1620
38.10	3748	56.10	969	70.05	646	81.90	298
39.10	1328	57.10	2017	72.05	439	86.20	62
40.00	124	57.95	80	73.05	3528	87.00	4063
44.00	420	60.00	723	74.10	13688	88.00	4093
45.05	758	61.10	3595	75.10	42949	90.95	241
47.05	1387	62.10	3571	76.10	3492	92.05	2300
48.05	445	63.10	2637	77.05	491	93.05	3441
49.10	3221	64.10	230	77.95	368	94.10	9847
50.10	16123	67.10	223	78.95	1570	95.10	91515

Average of 8.217 to 8.229 min.: 3d146918.d\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.05	5910	128.90	157	150.00	41	177.95	173
97.05	131	129.90	270	154.90	190		
103.90	316	131.00	40	156.95	184		
105.05	97	134.90	69	158.90	39		
105.95	320	136.80	93	160.90	78		
106.90	36	137.10	53	171.90	39		
116.00	238	140.95	680	173.20	639		
116.90	380	142.00	85	174.00	84056		
117.95	258	142.95	745	175.00	6424		
118.95	448	145.95	114	176.00	83080		
127.90	289	148.00	229	177.00	5509		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145270.D
Acq On : 7 Mar 2019 6:37 pm
Operator : juntaep
Sample : ic6212-0.2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 08 18:23:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.980	65	220104	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	330657	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	448083	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	380674	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	179911	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	114571	48.21	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 96.42%			
53) 1,2-dichloroethane-d4 (s)	4.443	65	127662	51.89	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 103.78%			
75) toluene-d8 (s)	5.894	98	486169	50.50	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.00%			
99) 4-bromofluorobenzene (s)	8.223	95	169166	49.75	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.50%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.035	59	660	1.21	ug/L	70
3) ethanol	2.426	45	1242	24.85	ug/L	74
6) chlorodifluoromethane	1.615	51	566	0.19	ug/L	66
7) dichlorodifluoromethane	1.603	85	531	0.15	ug/L	92
9) vinyl chloride	1.834	62	578	0.18	ug/L	75
10) 1,3-butadiene	1.865	54	560	0.22	ug/L	93
12) chloroethane	2.157	64	352	0.18	ug/L	49
13) trichlorofluoromethane	2.340	101	830	0.20	ug/L	93
14) vinyl bromide	2.291	106	372	0.20	ug/L #	65
15) ethyl ether	2.511	74	239	0.16	ug/L	88
16) acrolein	2.608	56	107	0.18	ug/L	98
18) 1,1-dichloroethene	2.694	96	350	0.15	ug/L	83
23) methylene chloride	3.011	84	602	0.26	ug/L #	74
24) methyl acetate	2.901	43	565	0.22	ug/L	63
25) methyl tert butyl ether	3.169	73	1389	0.19	ug/L	83
26) trans-1,2-dichloroethene	3.194	96	540	0.22	ug/L	96
27) di-isopropyl ether	3.486	45	1562	0.19	ug/L	89
28) 2-butanone	3.840	72	316	0.69	ug/L #	74
29) 1,1-dichloroethane	3.486	63	761	0.18	ug/L	74
30) chloroprene	3.535	53	729	0.18	ug/L	90
34) ethyl tert-butyl ether	3.730	59	1474	0.19	ug/L	95
36) 2,2-dichloropropane	3.883	77	692	0.20	ug/L	84
37) cis-1,2-dichloroethene	3.870	96	605	0.23	ug/L #	71
39) propionitrile	3.883	54	979	1.79	ug/L	94
40) bromochloromethane	4.029	128	208	0.18	ug/L #	65
42) chloroform	4.090	85	668	0.26	ug/L #	62
46) 1,1,1-trichloroethane	4.230	97	702	0.19	ug/L #	1
47) cyclohexane	4.291	84	877	0.22	ug/L #	81
48) 1,1-dichloropropene	4.334	75	639	0.19	ug/L	88
50) carbon tetrachloride	4.340	117	521	0.17	ug/L #	83
55) 2,2,4-trimethylpentane	4.541	57	1227	0.20	ug/L	84
56) benzene	4.480	78	1867	0.20	ug/L	94
57) tert-amyl methyl ether	4.541	87	347	0.19	ug/L #	42
58) heptane	4.657	71	289	0.18	ug/L #	82
61) trichloroethene	4.949	130	561	0.22	ug/L	91
62) ethyl acrylate	4.968	55	701	0.17	ug/L	75
65) methyl methacrylate	5.145	69	756	0.25	ug/L	92
67) dibromomethane	5.212	93	225	0.16	ug/L	98
69) bromodichloromethane	5.327	83	527	0.18	ug/L	80
71) cis-1,3-dichloropropene	5.669	75	851	0.23	ug/L	98
72) 4-methyl-2-pentanone	5.766	58	962	0.72	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145270.D
Acq On : 7 Mar 2019 6:37 pm
Operator : juntaep
Sample : ic6212-0.2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 08 18:23:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

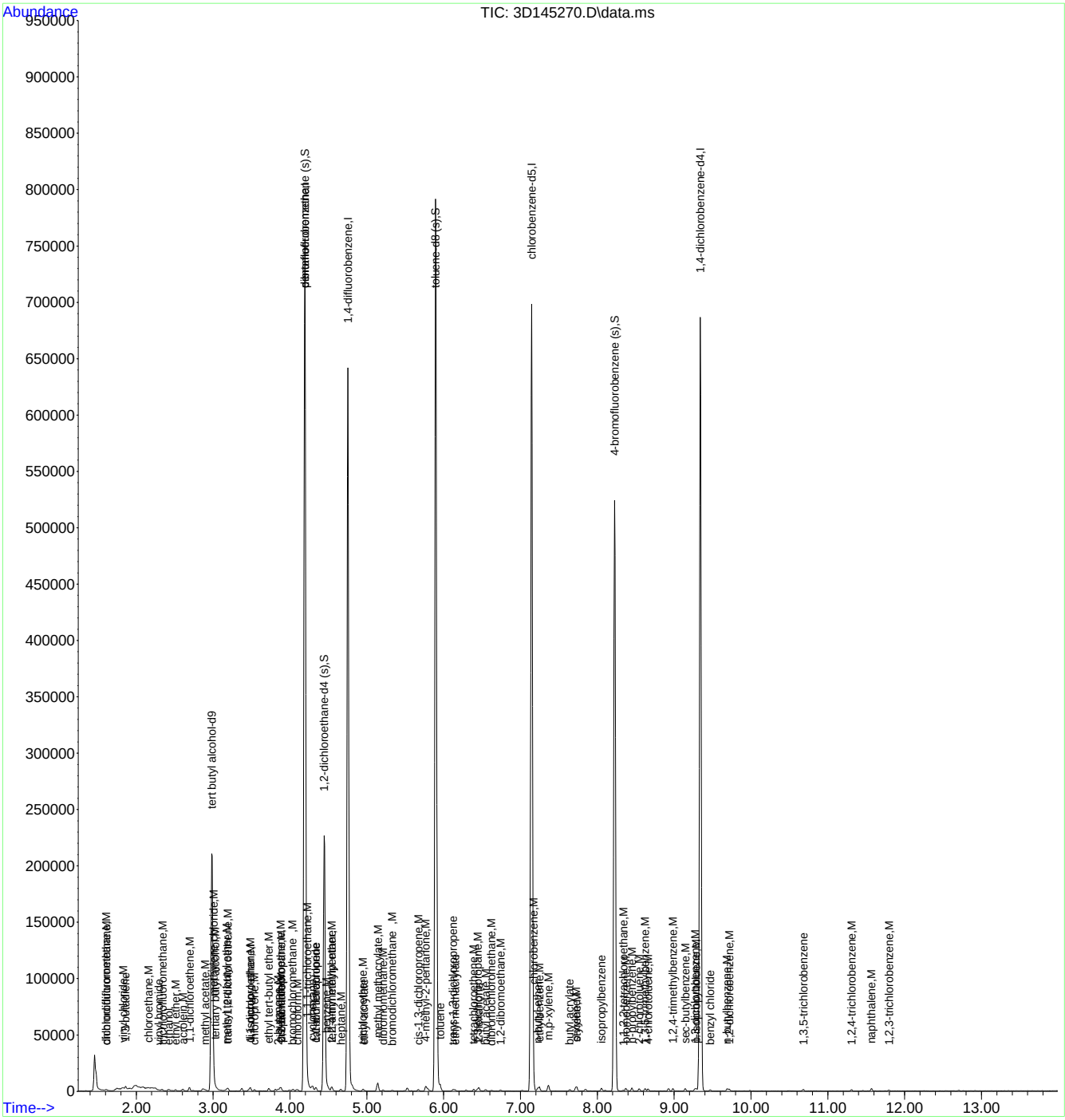
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
76) toluene	5.955	92	1313	0.22	ug/L	#	85
77) trans-1,3-dichloropropene	6.120	75	790	0.23	ug/L		96
78) ethyl methacrylate	6.150	69	664	0.18	ug/L		76
80) tetrachloroethene	6.388	164	443	0.21	ug/L	#	76
81) 1,3-dichloropropane	6.437	76	662	0.18	ug/L		92
82) 2-hexanone	6.455	58	996	0.71	ug/L		89
83) butyl acetate	6.541	56	417	0.19	ug/L		96
84) dibromochloromethane	6.620	129	353	0.16	ug/L		78
85) 1,2-dibromoethane	6.742	107	648	0.23	ug/L		98
86) n-butyl ether	7.223	57	1929	0.19	ug/L		93
87) chlorobenzene	7.175	112	1356	0.21	ug/L		72
89) ethylbenzene	7.248	91	2206	0.20	ug/L		94
90) m,p-xylene	7.358	106	1771	0.40	ug/L	#	76
91) o-xylene	7.717	106	886	0.21	ug/L		85
92) styrene	7.736	104	1352	0.19	ug/L		97
94) butyl acrylate	7.638	55	848	0.16	ug/L		82
96) isopropylbenzene	8.053	105	1997	0.18	ug/L		90
100) bromobenzene	8.370	156	524	0.19	ug/L	#	71
101) 1,1,2,2-tetrachloroethane	8.339	83	563	0.18	ug/L		92
104) n-propylbenzene	8.449	91	2438	0.20	ug/L		84
105) 2-chlorotoluene	8.546	126	466	0.18	ug/L	#	77
106) 4-chlorotoluene	8.656	126	451	0.18	ug/L	#	63
107) 1,3,5-trimethylbenzene	8.620	105	1693	0.20	ug/L		91
109) 1,2,4-trimethylbenzene	8.985	105	1619	0.19	ug/L		93
110) sec-butylbenzene	9.138	105	1816	0.18	ug/L		94
111) 1,3-dichlorobenzene	9.266	146	1100	0.22	ug/L		99
112) p-isopropyltoluene	9.284	119	1813	0.21	ug/L		85
114) benzyl chloride	9.467	91	1164	0.18	ug/L		97
115) 1,2-dichlorobenzene	9.717	146	1025	0.22	ug/L		83
116) n-butylbenzene	9.692	92	725	0.18	ug/L		99
118) 1,3,5-trichlorobenzene	10.674	180	755	0.22	ug/L		93
120) 1,2,4-trichlorobenzene	11.302	180	620	0.21	ug/L	#	58
122) naphthalene	11.564	128	2274	0.24	ug/L		98
123) 1,2,3-trichlorobenzene	11.790	180	475	0.17	ug/L		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145270.D
Acq On : 7 Mar 2019 6:37 pm
Operator : juntaep
Sample : ic6212-0.2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 08 18:23:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145271.D
Acq On : 7 Mar 2019 7:02 pm
Operator : juntaep
Sample : ic6212-0.5
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 08 18:24:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.980	65	215585	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	328988	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.755	114	448861	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	384722	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	179875	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.200	113	116460	49.25	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.50%				
53) 1,2-dichloroethane-d4 (s)	4.444	65	128245	52.03	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 104.06%				
75) toluene-d8 (s)	5.895	98	489292	50.29	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.58%				
99) 4-bromofluorobenzene (s)	8.223	95	170520	50.16	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.32%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	1369	2.55	ug/L		82
3) ethanol	2.420	45	2494	50.95	ug/L		96
4) 1,4-dioxane	5.181	88	578	11.68	ug/L		84
6) chlorodifluoromethane	1.615	51	1462	0.49	ug/L		86
7) dichlorodifluoromethane	1.603	85	1746	0.50	ug/L		93
8) chloromethane	1.749	50	1647	0.54	ug/L		89
9) vinyl chloride	1.834	62	1522	0.46	ug/L		84
10) 1,3-butadiene	1.859	54	1182	0.47	ug/L		93
12) chloroethane	2.157	64	1176	0.61	ug/L		88
13) trichlorofluoromethane	2.334	101	1979	0.49	ug/L		92
14) vinyl bromide	2.292	106	869	0.46	ug/L	#	77
15) ethyl ether	2.517	74	781	0.53	ug/L	#	83
16) acrolein	2.615	56	297	0.50	ug/L		94
17) freon 113	2.688	151	1034	0.48	ug/L		89
18) 1,1-dichloroethene	2.688	96	954	0.42	ug/L		94
20) acetonitrile	2.883	41	2620	5.46	ug/L		99
22) carbon disulfide	2.859	76	3127	0.55	ug/L		93
23) methylene chloride	3.011	84	1207	0.53	ug/L		78
24) methyl acetate	2.901	43	1377	0.54	ug/L		84
25) methyl tert butyl ether	3.176	73	3464	0.48	ug/L		83
26) trans-1,2-dichloroethene	3.194	96	1236	0.51	ug/L		92
27) di-isopropyl ether	3.480	45	3986	0.48	ug/L		91
28) 2-butanone	3.834	72	818	1.79	ug/L		93
29) 1,1-dichloroethane	3.486	63	1996	0.47	ug/L		96
30) chloroprene	3.535	53	1723	0.43	ug/L		95
31) acrylonitrile	3.157	53	530	0.42	ug/L		80
32) hexane	3.377	56	1016	0.50	ug/L		83
33) vinyl acetate	3.462	86	301	0.42	ug/L		93
34) ethyl tert-butyl ether	3.730	59	3786	0.48	ug/L		93
36) 2,2-dichloropropane	3.883	77	1739	0.50	ug/L		84
37) cis-1,2-dichloroethene	3.864	96	1190	0.46	ug/L		87
39) propionitrile	3.877	54	2650	4.88	ug/L		72
40) bromochloromethane	4.029	128	544	0.46	ug/L	#	83
42) chloroform	4.090	85	1322	0.52	ug/L		91
43) t-butyl formate	4.108	59	949	0.40	ug/L		83
45) methacrylonitrile	3.992	67	527	0.39	ug/L		96
46) 1,1,1-trichloroethane	4.230	97	1850	0.50	ug/L	#	13
47) cyclohexane	4.291	84	2105	0.54	ug/L	#	84
48) 1,1-dichloropropene	4.334	75	1640	0.48	ug/L		95
49) iso-butyl alcohol	4.340	43	1106	5.33	ug/L		92
50) carbon tetrachloride	4.346	117	1448	0.47	ug/L		83

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145271.D
Acq On : 7 Mar 2019 7:02 pm
Operator : juntaep
Sample : ic6212-0.5
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 08 18:24:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) tert amyl alcohol	4.431	55	455	2.50	ug/L		81
54) n-butyl alcohol	4.809	56	3275	22.21	ug/L		97
55) 2,2,4-trimethylpentane	4.547	57	3245	0.53	ug/L		93
56) benzene	4.480	78	4981	0.53	ug/L		88
57) tert-amyl methyl ether	4.541	87	953	0.51	ug/L		95
58) heptane	4.657	71	841	0.52	ug/L		90
61) trichloroethene	4.950	130	1188	0.46	ug/L		90
62) ethyl acrylate	4.968	55	1898	0.47	ug/L		91
63) 2-nitropropane	5.486	41	387	0.55	ug/L	#	73
64) 2-chloroethyl vinyl ether	5.523	63	3283	1.87	ug/L		94
65) methyl methacrylate	5.145	69	1676	0.56	ug/L		96
66) 1,2-dichloropropane	5.145	63	1114	0.48	ug/L		89
67) dibromomethane	5.212	93	670	0.48	ug/L		93
69) bromodichloromethane	5.328	83	1378	0.47	ug/L		96
70) epichlorohydrin	5.578	57	853	2.10	ug/L	#	58
71) cis-1,3-dichloropropene	5.669	75	1640	0.44	ug/L		93
72) 4-methyl-2-pentanone	5.767	58	2491	1.85	ug/L		98
73) 3-methyl-1-butanol	5.791	55	1659	7.61	ug/L		96
76) toluene	5.955	92	3063	0.51	ug/L		97
77) trans-1,3-dichloropropene	6.126	75	1676	0.48	ug/L		84
78) ethyl methacrylate	6.144	69	1682	0.45	ug/L		91
79) 1,1,2-trichloroethane	6.291	83	778	0.44	ug/L	#	75
80) tetrachloroethene	6.394	164	1036	0.48	ug/L		91
81) 1,3-dichloropropane	6.437	76	1759	0.48	ug/L		97
82) 2-hexanone	6.455	58	2478	1.75	ug/L		98
83) butyl acetate	6.541	56	957	0.42	ug/L		96
84) dibromochloromethane	6.626	129	965	0.44	ug/L		90
85) 1,2-dibromoethane	6.742	107	1246	0.45	ug/L		90
86) n-butyl ether	7.224	57	4453	0.44	ug/L		88
87) chlorobenzene	7.169	112	3347	0.52	ug/L		90
88) 1,1,1,2-tetrachloroethane	7.242	131	1053	0.47	ug/L		93
89) ethylbenzene	7.248	91	5385	0.47	ug/L		90
90) m,p-xylene	7.364	106	4396	0.99	ug/L		93
91) o-xylene	7.717	106	2134	0.50	ug/L	#	76
92) styrene	7.736	104	3386	0.46	ug/L		89
94) butyl acrylate	7.638	55	2327	0.42	ug/L		94
95) n-amyl acetate	7.845	70	931	0.40	ug/L		93
96) isopropylbenzene	8.059	105	5433	0.50	ug/L		96
100) bromobenzene	8.370	156	1464	0.52	ug/L		86
101) 1,1,2,2-tetrachloroethane	8.339	83	1423	0.44	ug/L		92
103) 1,2,3-trichloropropane	8.400	110	521	0.49	ug/L		87
104) n-propylbenzene	8.449	91	6141	0.50	ug/L		98
105) 2-chlorotoluene	8.546	126	1237	0.48	ug/L	#	79
106) 4-chlorotoluene	8.656	126	1332	0.52	ug/L		93
107) 1,3,5-trimethylbenzene	8.620	105	4117	0.48	ug/L		98
108) tert-butylbenzene	8.931	134	896	0.47	ug/L	#	84
109) 1,2,4-trimethylbenzene	8.985	105	4126	0.48	ug/L		91
110) sec-butylbenzene	9.144	105	4928	0.48	ug/L		94
111) 1,3-dichlorobenzene	9.266	146	2408	0.49	ug/L		97
112) p-isopropyltoluene	9.290	119	4091	0.46	ug/L		95
113) 1,4-dichlorobenzene	9.369	146	2520	0.50	ug/L		95
114) benzyl chloride	9.467	91	2674	0.42	ug/L		86
115) 1,2-dichlorobenzene	9.717	146	2426	0.52	ug/L		95
116) n-butylbenzene	9.693	92	1717	0.43	ug/L		91
118) 1,3,5-trichlorobenzene	10.680	180	1613	0.47	ug/L		87
120) 1,2,4-trichlorobenzene	11.308	180	1361	0.45	ug/L		82
121) hexachlorobutadiene	11.454	225	564	0.48	ug/L		86
122) naphthalene	11.570	128	4310	0.46	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145271.D
Acq On : 7 Mar 2019 7:02 pm
Operator : juntaep
Sample : ic6212-0.5
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 08 18:24:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

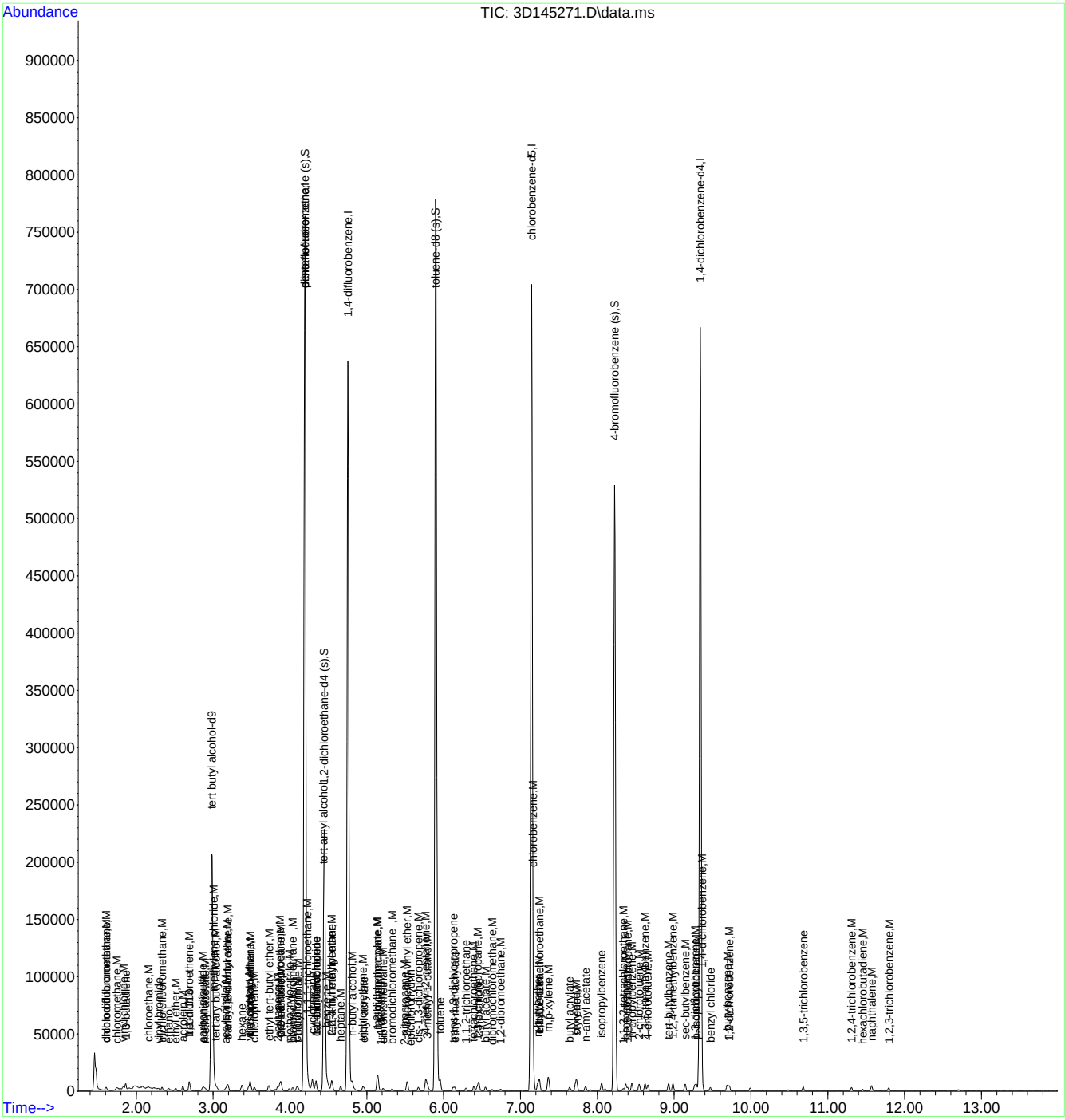
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
123) 1,2,3-trichlorobenzene	11.790	180	1237	0.44	ug/L	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145271.D
Acq On : 7 Mar 2019 7:02 pm
Operator : juntaep
Sample : ic6212-0.5
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 08 18:24:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145272.D
Acq On : 7 Mar 2019 7:27 pm
Operator : juntaep
Sample : ic6212-1
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 08 18:25:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.986	65	218651	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	324918	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	447955	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	384138	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	180549	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	115835	49.60	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.20%			
53) 1,2-dichloroethane-d4 (s)	4.450	65	127387	51.79	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 103.58%			
75) toluene-d8 (s)	5.901	98	484991	49.93	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.86%			
99) 4-bromofluorobenzene (s)	8.223	95	169334	49.62	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.24%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.041	59	3125	5.75	ug/L	90
3) ethanol	2.420	45	6293	126.76	ug/L	94
4) 1,4-dioxane	5.181	88	1427	28.43	ug/L	91
6) chlorodifluoromethane	1.615	51	3262	1.10	ug/L	98
7) dichlorodifluoromethane	1.603	85	3250	0.94	ug/L	99
8) chloromethane	1.749	50	3149	1.04	ug/L	95
9) vinyl chloride	1.834	62	3061	0.94	ug/L	92
10) 1,3-butadiene	1.865	54	2886	1.15	ug/L	96
11) bromomethane	2.084	94	1238	1.06	ug/L	78
12) chloroethane	2.157	64	2074	1.09	ug/L	93
13) trichlorofluoromethane	2.334	101	3747	0.93	ug/L	97
14) vinyl bromide	2.291	106	1834	0.98	ug/L	93
15) ethyl ether	2.517	74	1570	1.07	ug/L	86
16) acrolein	2.615	56	596	1.02	ug/L	95
17) freon 113	2.688	151	2316	1.10	ug/L	91
18) 1,1-dichloroethene	2.694	96	2503	1.12	ug/L	97
19) acetone	2.694	58	1475	4.62	ug/L	90
20) acetonitrile	2.883	41	5967	12.59	ug/L	96
22) carbon disulfide	2.865	76	6873	1.21	ug/L	94
23) methylene chloride	3.011	84	2717	1.20	ug/L	97
24) methyl acetate	2.901	43	3191	1.26	ug/L	93
25) methyl tert butyl ether	3.182	73	8103	1.13	ug/L	96
26) trans-1,2-dichloroethene	3.194	96	2654	1.12	ug/L	91
27) di-isopropyl ether	3.480	45	9295	1.14	ug/L	94
28) 2-butanone	3.840	72	1989	4.41	ug/L	94
29) 1,1-dichloroethane	3.486	63	4558	1.10	ug/L	87
30) chloroprene	3.541	53	4440	1.12	ug/L	95
31) acrylonitrile	3.151	53	1341	1.07	ug/L	80
32) hexane	3.377	56	2289	1.14	ug/L	92
33) vinyl acetate	3.456	86	726	1.03	ug/L #	91
34) ethyl tert-butyl ether	3.730	59	8448	1.09	ug/L	93
35) ethyl acetate	3.852	45	588	1.12	ug/L #	68
36) 2,2-dichloropropane	3.877	77	4142	1.20	ug/L	92
37) cis-1,2-dichloroethene	3.864	96	2816	1.10	ug/L	99
38) methyl acrylate	3.895	85	504	0.96	ug/L	98
39) propionitrile	3.883	54	6322	11.79	ug/L	87
40) bromochloromethane	4.029	128	1372	1.18	ug/L	92
41) tetrahydrofuran	4.047	72	610	1.21	ug/L	83
42) chloroform	4.090	85	2876	1.14	ug/L	98
43) t-butyl formate	4.108	59	2272	0.97	ug/L	93
45) methacrylonitrile	3.992	67	1380	1.03	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145272.D
Acq On : 7 Mar 2019 7:27 pm
Operator : juntaep
Sample : ic6212-1
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 08 18:25:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 1,1,1-trichloroethane	4.224	97	4015	1.10 ug/L #	53
47) cyclohexane	4.291	84	3922	1.02 ug/L	94
48) 1,1-dichloropropene	4.334	75	3977	1.19 ug/L	97
49) iso-butyl alcohol	4.334	43	2549	12.45 ug/L	95
50) carbon tetrachloride	4.346	117	3087	1.01 ug/L	94
51) tert amyl alcohol	4.425	55	1135	6.30 ug/L	89
54) n-butyl alcohol	4.809	56	8176	55.55 ug/L	95
55) 2,2,4-trimethylpentane	4.547	57	7069	1.15 ug/L	96
56) benzene	4.480	78	10699	1.14 ug/L	92
57) tert-amyl methyl ether	4.547	87	2049	1.10 ug/L	92
58) heptane	4.663	71	1861	1.15 ug/L	94
59) isopropyl acetate	4.456	87	867	1.09 ug/L #	63
60) 1,2-dichloroethane	4.504	62	4071	1.33 ug/L	94
61) trichloroethene	4.949	130	2776	1.08 ug/L	96
62) ethyl acrylate	4.968	55	4229	1.05 ug/L	98
63) 2-nitropropane	5.486	41	784	1.12 ug/L	88
64) 2-chloroethyl vinyl ether	5.529	63	7678	4.39 ug/L	92
65) methyl methacrylate	5.145	69	3568	1.19 ug/L	88
66) 1,2-dichloropropane	5.145	63	2606	1.12 ug/L	88
67) dibromomethane	5.212	93	1561	1.13 ug/L	98
69) bromodichloromethane	5.334	83	3202	1.10 ug/L	92
70) epichlorohydrin	5.577	57	2024	5.00 ug/L	90
71) cis-1,3-dichloropropene	5.669	75	3909	1.04 ug/L	92
72) 4-methyl-2-pentanone	5.766	58	5942	4.43 ug/L	94
73) 3-methyl-1-butanol	5.791	55	4265	19.60 ug/L	87
76) toluene	5.955	92	6707	1.11 ug/L	87
77) trans-1,3-dichloropropene	6.120	75	3712	1.07 ug/L	95
78) ethyl methacrylate	6.144	69	3986	1.06 ug/L	97
79) 1,1,2-trichloroethane	6.291	83	1949	1.10 ug/L	94
80) tetrachloroethene	6.394	164	2445	1.13 ug/L	93
81) 1,3-dichloropropane	6.437	76	4244	1.15 ug/L	96
82) 2-hexanone	6.455	58	6199	4.37 ug/L	98
83) butyl acetate	6.547	56	2364	1.04 ug/L	88
84) dibromochloromethane	6.626	129	2276	1.03 ug/L	91
85) 1,2-dibromoethane	6.742	107	3105	1.12 ug/L	88
86) n-butyl ether	7.223	57	11179	1.12 ug/L	97
87) chlorobenzene	7.169	112	7437	1.15 ug/L	93
88) 1,1,1,2-tetrachloroethane	7.236	131	2291	1.02 ug/L	93
89) ethylbenzene	7.248	91	12906	1.14 ug/L	98
90) m,p-xylene	7.364	106	10110	2.29 ug/L	91
91) o-xylene	7.723	106	4959	1.17 ug/L	92
92) styrene	7.736	104	7975	1.09 ug/L	95
93) bromoform	7.912	173	1511	0.92 ug/L	94
94) butyl acrylate	7.638	55	5450	0.99 ug/L	91
95) n-amyl acetate	7.845	70	2499	1.09 ug/L	92
96) isopropylbenzene	8.059	105	12097	1.11 ug/L	95
97) cis-1,4-dichloro-2-butene	8.107	88	1091	0.85 ug/L	99
100) bromobenzene	8.370	156	3337	1.18 ug/L	87
101) 1,1,2,2-tetrachloroethane	8.333	83	3462	1.07 ug/L	94
102) trans-1,4-dichloro-2-b...	8.370	53	1056	1.12 ug/L #	53
103) 1,2,3-trichloropropane	8.400	110	1221	1.15 ug/L	89
104) n-propylbenzene	8.449	91	13367	1.09 ug/L	94
105) 2-chlorotoluene	8.546	126	2975	1.16 ug/L	91
106) 4-chlorotoluene	8.662	126	2892	1.13 ug/L	91
107) 1,3,5-trimethylbenzene	8.620	105	9743	1.12 ug/L	99
108) tert-butylbenzene	8.930	134	2166	1.14 ug/L	94
109) 1,2,4-trimethylbenzene	8.985	105	9688	1.13 ug/L	99
110) sec-butylbenzene	9.144	105	11159	1.08 ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145272.D
Acq On : 7 Mar 2019 7:27 pm
Operator : juntaep
Sample : ic6212-1
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 08 18:25:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

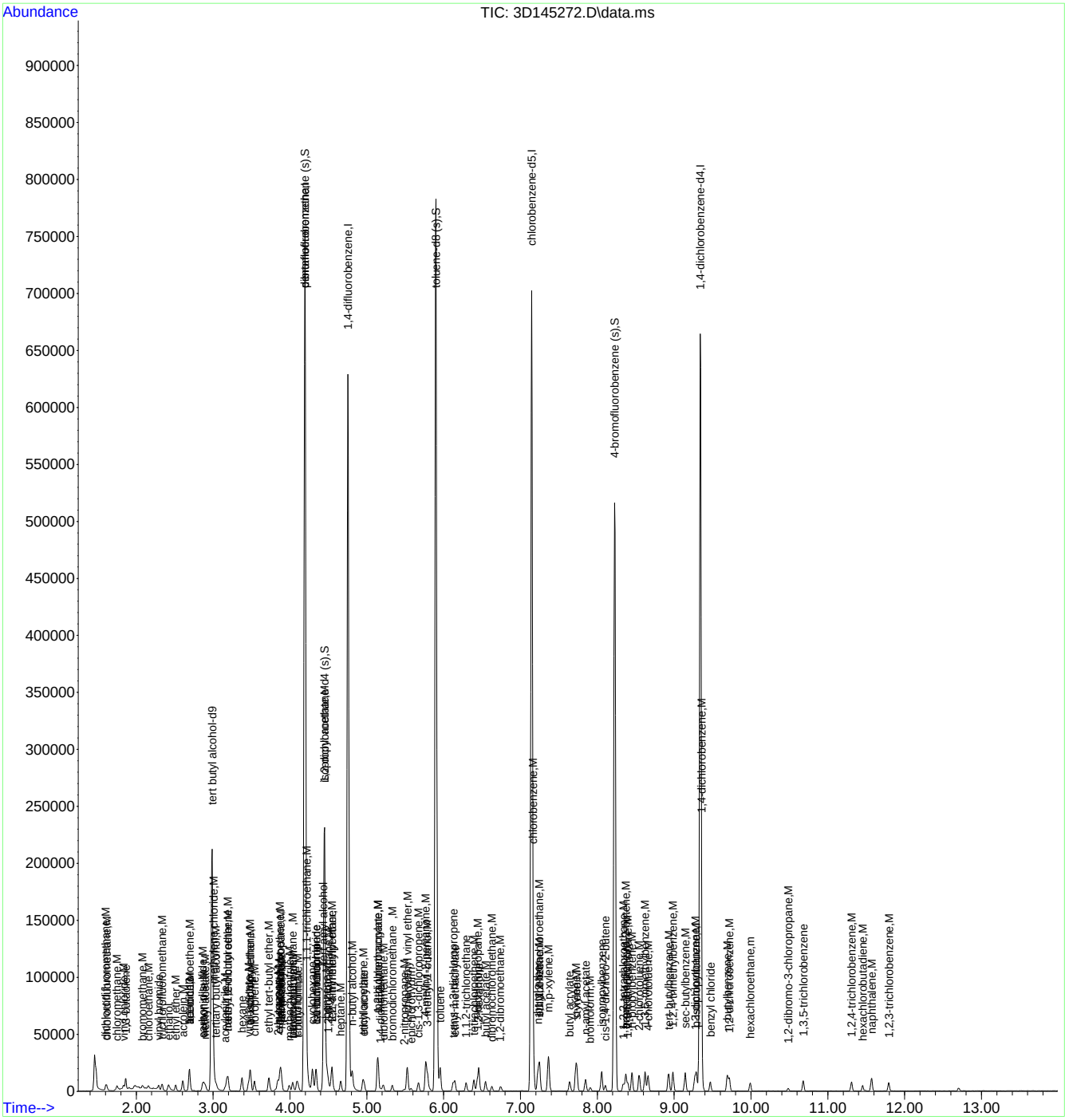
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
111) 1,3-dichlorobenzene	9.272	146	5558	1.12 ug/L	99
112) p-isopropyltoluene	9.290	119	9826	1.11 ug/L	98
113) 1,4-dichlorobenzene	9.363	146	5749	1.14 ug/L	94
114) benzyl chloride	9.473	91	6415	1.01 ug/L	93
115) 1,2-dichlorobenzene	9.717	146	5175	1.10 ug/L	97
116) n-butylbenzene	9.692	92	4255	1.05 ug/L	96
117) 1,2-dibromo-3-chloropr...	10.479	75	631	0.92 ug/L #	83
118) 1,3,5-trichlorobenzene	10.680	180	3724	1.09 ug/L	89
120) 1,2,4-trichlorobenzene	11.308	180	2944	0.97 ug/L	92
121) hexachlorobutadiene	11.454	225	1207	1.01 ug/L	95
122) naphthalene	11.570	128	9758	1.03 ug/L	94
123) 1,2,3-trichlorobenzene	11.796	180	3001	1.05 ug/L	92
124) hexachloroethane	9.991	201	1194	0.90 ug/L	82

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145272.D
Acq On : 7 Mar 2019 7:27 pm
Operator : juntaep
Sample : ic6212-1
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 08 18:25:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145273.D
Acq On : 7 Mar 2019 7:52 pm
Operator : juntaep
Sample : ic6212-2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 08 18:25:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.986	65	218913	500.00	ug/L		0.00
5) pentafluorobenzene	4.193	168	330735	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	454681	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	388374	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	185181	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.199	113	117743	49.53	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.06%				
53) 1,2-dichloroethane-d4 (s)	4.443	65	131331	52.60	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 105.20%				
75) toluene-d8 (s)	5.900	98	495803	50.48	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.96%				
99) 4-bromofluorobenzene (s)	8.223	95	173353	49.53	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.06%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	5726	10.51	ug/L		95
3) ethanol	2.419	45	10870	218.70	ug/L		99
4) 1,4-dioxane	5.181	88	2608	51.90	ug/L		97
6) chlorodifluoromethane	1.615	51	6272	2.08	ug/L		98
7) dichlorodifluoromethane	1.602	85	6490	1.84	ug/L		92
8) chloromethane	1.749	50	5943	1.92	ug/L		95
9) vinyl chloride	1.834	62	6033	1.83	ug/L		99
10) 1,3-butadiene	1.858	54	5321	2.09	ug/L		98
11) bromomethane	2.078	94	2435	2.04	ug/L		95
12) chloroethane	2.157	64	3702	1.91	ug/L		92
13) trichlorofluoromethane	2.334	101	7361	1.80	ug/L		96
14) vinyl bromide	2.291	106	3364	1.77	ug/L		99
15) ethyl ether	2.517	74	3132	2.10	ug/L		88
16) acrolein	2.608	56	1095	1.85	ug/L		88
17) freon 113	2.688	151	4399	2.05	ug/L		91
18) 1,1-dichloroethene	2.688	96	4369	1.91	ug/L		86
19) acetone	2.694	58	2516	7.74	ug/L	#	82
20) acetonitrile	2.883	41	10048	20.84	ug/L		94
21) iodomethane	2.803	142	491	0.38	ug/L		89
22) carbon disulfide	2.858	76	11732	2.03	ug/L		97
23) methylene chloride	3.011	84	4957	2.16	ug/L		97
24) methyl acetate	2.901	43	5533	2.15	ug/L		94
25) methyl tert butyl ether	3.175	73	14631	2.01	ug/L		98
26) trans-1,2-dichloroethene	3.194	96	4787	1.98	ug/L		98
27) di-isopropyl ether	3.480	45	16608	2.01	ug/L		91
28) 2-butanone	3.834	72	3568	7.77	ug/L	#	86
29) 1,1-dichloroethane	3.486	63	8391	1.98	ug/L		97
30) chloroprene	3.535	53	7836	1.94	ug/L		97
31) acrylonitrile	3.151	53	2600	2.03	ug/L		97
32) hexane	3.376	56	4237	2.08	ug/L		86
33) vinyl acetate	3.456	86	1373	1.91	ug/L	#	63
34) ethyl tert-butyl ether	3.724	59	15704	1.99	ug/L		95
35) ethyl acetate	3.852	45	1055	1.98	ug/L	#	88
36) 2,2-dichloropropane	3.876	77	7266	2.07	ug/L		94
37) cis-1,2-dichloroethene	3.870	96	5107	1.96	ug/L		97
38) methyl acrylate	3.895	85	1064	1.99	ug/L	#	90
39) propionitrile	3.876	54	10825	19.83	ug/L		77
40) bromochloromethane	4.029	128	2510	2.12	ug/L		90
41) tetrahydrofuran	4.047	72	861	1.67	ug/L	#	74
42) chloroform	4.084	85	5224	2.03	ug/L		96
43) t-butyl formate	4.102	59	4185	1.76	ug/L		88

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145273.D
Acq On : 7 Mar 2019 7:52 pm
Operator : juntaep
Sample : ic6212-2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 08 18:25:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) methacrylonitrile	3.992	67	2719	2.00	ug/L		84
46) 1,1,1-trichloroethane	4.230	97	7643	2.06	ug/L		80
47) cyclohexane	4.291	84	7612	1.95	ug/L		99
48) 1,1-dichloropropene	4.334	75	6904	2.03	ug/L		99
49) iso-butyl alcohol	4.334	43	4277	20.52	ug/L		97
50) carbon tetrachloride	4.340	117	6075	1.94	ug/L		88
51) tert amyl alcohol	4.425	55	1721	9.39	ug/L		91
54) n-butyl alcohol	4.809	56	13696	91.68	ug/L		97
55) 2,2,4-trimethylpentane	4.547	57	13279	2.12	ug/L		96
56) benzene	4.480	78	19972	2.09	ug/L		94
57) tert-amyl methyl ether	4.541	87	3833	2.04	ug/L		93
58) heptane	4.657	71	3494	2.12	ug/L		94
59) isopropyl acetate	4.449	87	1538	1.90	ug/L	#	69
60) 1,2-dichloroethane	4.498	62	6695	2.15	ug/L		99
61) trichloroethene	4.949	130	5423	2.08	ug/L		97
62) ethyl acrylate	4.968	55	8098	1.99	ug/L		96
63) 2-nitropropane	5.486	41	1223	1.72	ug/L		88
64) 2-chloroethyl vinyl ether	5.529	63	15677	8.84	ug/L		97
65) methyl methacrylate	5.144	69	5998	1.96	ug/L		94
66) 1,2-dichloropropane	5.144	63	4769	2.03	ug/L		99
67) dibromomethane	5.211	93	2801	2.00	ug/L		98
68) methylcyclohexane	5.138	83	9346	2.33	ug/L		99
69) bromodichloromethane	5.327	83	5497	1.86	ug/L		98
70) epichlorohydrin	5.571	57	3792	9.23	ug/L		99
71) cis-1,3-dichloropropene	5.669	75	7672	2.02	ug/L		97
72) 4-methyl-2-pentanone	5.766	58	10891	8.00	ug/L		98
73) 3-methyl-1-butanol	5.791	55	7745	35.07	ug/L		97
76) toluene	5.955	92	12635	2.07	ug/L		94
77) trans-1,3-dichloropropene	6.120	75	6616	1.89	ug/L		94
78) ethyl methacrylate	6.144	69	6995	1.84	ug/L		97
79) 1,1,2-trichloroethane	6.297	83	3681	2.06	ug/L	#	82
80) tetrachloroethene	6.394	164	4298	1.96	ug/L		88
81) 1,3-dichloropropane	6.437	76	7648	2.05	ug/L		97
82) 2-hexanone	6.455	58	10986	7.66	ug/L		98
83) butyl acetate	6.547	56	4408	1.93	ug/L		95
84) dibromochloromethane	6.626	129	3997	1.79	ug/L		93
85) 1,2-dibromoethane	6.742	107	5304	1.89	ug/L		97
86) n-butyl ether	7.223	57	20293	2.01	ug/L		99
87) chlorobenzene	7.168	112	13654	2.09	ug/L		98
88) 1,1,1,2-tetrachloroethane	7.242	131	4306	1.90	ug/L		95
89) ethylbenzene	7.248	91	23463	2.04	ug/L		99
90) m,p-xylene	7.364	106	18386	4.11	ug/L		98
91) o-xylene	7.717	106	8370	1.96	ug/L		94
92) styrene	7.735	104	14619	1.97	ug/L		97
93) bromoform	7.906	173	2809	1.68	ug/L		99
94) butyl acrylate	7.638	55	9708	1.74	ug/L		99
95) n-amyl acetate	7.845	70	4394	1.89	ug/L		91
96) isopropylbenzene	8.059	105	21887	1.99	ug/L		99
97) cis-1,4-dichloro-2-butene	8.101	88	2129	1.64	ug/L		98
100) bromobenzene	8.369	156	5775	1.99	ug/L		97
101) 1,1,2,2-tetrachloroethane	8.339	83	6446	1.95	ug/L		97
102) trans-1,4-dichloro-2-b...	8.376	53	1769	1.83	ug/L	#	78
103) 1,2,3-trichloropropane	8.400	110	2121	1.96	ug/L		96
104) n-propylbenzene	8.449	91	24535	1.95	ug/L		98
105) 2-chlorotoluene	8.546	126	5119	1.95	ug/L	#	80
106) 4-chlorotoluene	8.662	126	5289	2.01	ug/L		95
107) 1,3,5-trimethylbenzene	8.619	105	17600	1.98	ug/L		97
108) tert-butylbenzene	8.930	134	3977	2.04	ug/L	#	87

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145273.D
Acq On : 7 Mar 2019 7:52 pm
Operator : juntaep
Sample : ic6212-2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 08 18:25:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

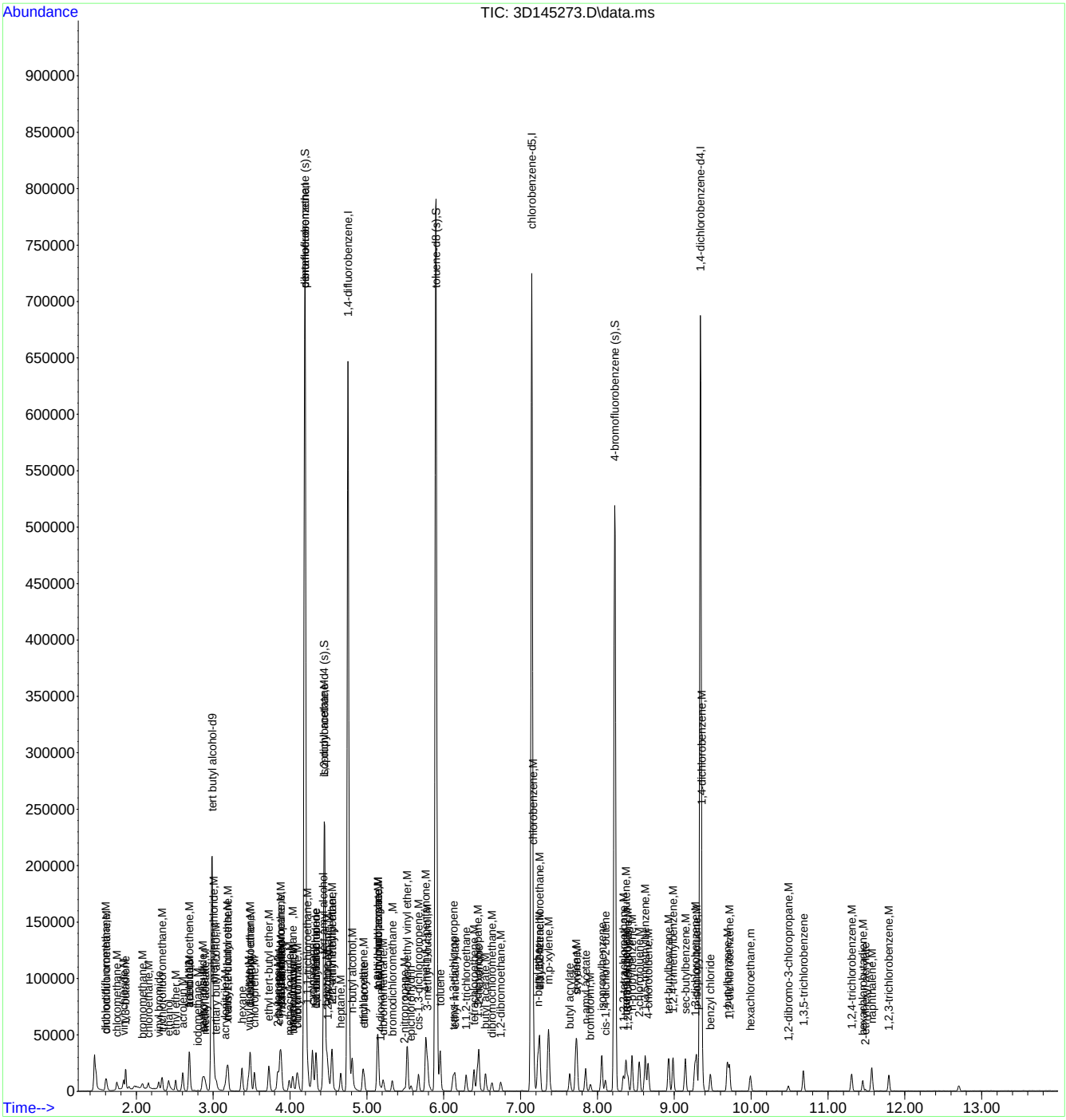
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	17153	1.94 ug/L	98
110) sec-butylbenzene	9.144	105	20501	1.94 ug/L	99
111) 1,3-dichlorobenzene	9.266	146	10259	2.02 ug/L	97
112) p-isopropyltoluene	9.290	119	17713	1.95 ug/L	95
113) 1,4-dichlorobenzene	9.363	146	10599	2.05 ug/L	97
114) benzyl chloride	9.467	91	11342	1.74 ug/L	100
115) 1,2-dichlorobenzene	9.717	146	10100	2.10 ug/L	95
116) n-butylbenzene	9.686	92	7709	1.86 ug/L	94
117) 1,2-dibromo-3-chloropr...	10.485	75	1154	1.64 ug/L	93
118) 1,3,5-trichlorobenzene	10.680	180	6533	1.87 ug/L	96
119) 2-ethylhexyl acrylate	11.485	70	306	0.18 ug/L #	81
120) 1,2,4-trichlorobenzene	11.308	180	5615	1.80 ug/L	89
121) hexachlorobutadiene	11.454	225	2189	1.79 ug/L	98
122) naphthalene	11.570	128	17412	1.79 ug/L	97
123) 1,2,3-trichlorobenzene	11.789	180	5147	1.76 ug/L	100
124) hexachloroethane	9.991	201	2317	1.70 ug/L	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145273.D
Acq On : 7 Mar 2019 7:52 pm
Operator : juntaep
Sample : ic6212-2
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 08 18:25:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145274.D
Acq On : 7 Mar 2019 8:17 pm
Operator : juntaep
Sample : ic6212-4
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 08 17:34:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.986	65	219201	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	325395	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	449080	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	383406	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	179727	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.200	113	115048	49.19	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.38%				
53) 1,2-dichloroethane-d4 (s)	4.450	65	128365	52.06	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 104.12%				
75) toluene-d8 (s)	5.894	98	483787	49.90	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.80%				
99) 4-bromofluorobenzene (s)	8.223	95	169436	49.88	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.76%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	10577	19.40	ug/L		95
3) ethanol	2.420	45	20000	401.87	ug/L		100
4) 1,4-dioxane	5.181	88	4808	95.55	ug/L		96
6) chlorodifluoromethane	1.615	51	11095	3.74	ug/L		98
7) dichlorodifluoromethane	1.603	85	13173	3.80	ug/L		99
8) chloromethane	1.749	50	12013	3.95	ug/L		98
9) vinyl chloride	1.834	62	11874	3.66	ug/L		97
10) 1,3-butadiene	1.865	54	9609	3.84	ug/L		95
11) bromomethane	2.078	94	4438	3.78	ug/L		87
12) chloroethane	2.157	64	7513	3.94	ug/L		98
13) trichlorofluoromethane	2.334	101	15342	3.81	ug/L		94
14) vinyl bromide	2.292	106	7037	3.75	ug/L		97
15) ethyl ether	2.511	74	5279	3.60	ug/L		95
16) acrolein	2.608	56	2371	4.07	ug/L		96
17) freon 113	2.688	151	8325	3.95	ug/L		92
18) 1,1-dichloroethene	2.694	96	8232	3.67	ug/L		94
19) acetone	2.700	58	5037	15.74	ug/L		89
20) acetonitrile	2.883	41	18567	39.13	ug/L		99
21) iodomethane	2.804	142	979	0.77	ug/L		90
22) carbon disulfide	2.858	76	22048	3.89	ug/L		99
23) methylene chloride	3.011	84	9251	4.09	ug/L		95
24) methyl acetate	2.901	43	10372	4.10	ug/L		95
25) methyl tert butyl ether	3.182	73	27943	3.89	ug/L		93
26) trans-1,2-dichloroethene	3.194	96	9026	3.80	ug/L		93
27) di-isopropyl ether	3.480	45	31258	3.84	ug/L		95
28) 2-butanone	3.840	72	6610	14.63	ug/L	#	84
29) 1,1-dichloroethane	3.486	63	15886	3.82	ug/L		99
30) chloroprene	3.535	53	15118	3.80	ug/L		98
31) acrylonitrile	3.151	53	5024	3.99	ug/L		97
32) hexane	3.371	56	7847	3.92	ug/L		91
33) vinyl acetate	3.462	86	2616	3.70	ug/L		96
34) ethyl tert-butyl ether	3.724	59	30189	3.89	ug/L		100
35) ethyl acetate	3.852	45	2266	4.33	ug/L	#	63
36) 2,2-dichloropropane	3.883	77	13187	3.81	ug/L		97
37) cis-1,2-dichloroethene	3.870	96	10098	3.94	ug/L		96
38) methyl acrylate	3.895	85	1879	3.57	ug/L	#	52
39) propionitrile	3.883	54	21485	40.00	ug/L		92
40) bromochloromethane	4.029	128	4621	3.96	ug/L		93
41) tetrahydrofuran	4.041	72	1822	3.60	ug/L	#	73
42) chloroform	4.090	85	10044	3.96	ug/L		96
43) t-butyl formate	4.108	59	8335	3.56	ug/L		92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145274.D
Acq On : 7 Mar 2019 8:17 pm
Operator : juntaep
Sample : ic6212-4
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 08 17:34:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) methacrylonitrile	3.986	67	5028	3.76	ug/L		96
46) 1,1,1-trichloroethane	4.230	97	13751	3.77	ug/L		93
47) cyclohexane	4.291	84	15082	3.93	ug/L		97
48) 1,1-dichloropropene	4.334	75	12469	3.72	ug/L		93
49) iso-butyl alcohol	4.334	43	8236	40.16	ug/L		92
50) carbon tetrachloride	4.340	117	11518	3.75	ug/L		96
51) tert amyl alcohol	4.425	55	3706	20.55	ug/L		93
54) n-butyl alcohol	4.809	56	27781	188.28	ug/L		96
55) 2,2,4-trimethylpentane	4.547	57	24618	3.99	ug/L		96
56) benzene	4.480	78	37112	3.93	ug/L		100
57) tert-amyl methyl ether	4.541	87	7245	3.90	ug/L		99
58) heptane	4.663	71	6220	3.83	ug/L		95
59) isopropyl acetate	4.450	87	3023	3.78	ug/L	#	85
60) 1,2-dichloroethane	4.504	62	12702	4.13	ug/L		98
61) trichloroethene	4.950	130	9735	3.79	ug/L		97
62) ethyl acrylate	4.962	55	15722	3.90	ug/L		98
63) 2-nitropropane	5.486	41	2763	3.93	ug/L	#	85
64) 2-chloroethyl vinyl ether	5.523	63	30501	17.40	ug/L		98
65) methyl methacrylate	5.145	69	11462	3.80	ug/L		87
66) 1,2-dichloropropane	5.145	63	9014	3.88	ug/L		95
67) dibromomethane	5.212	93	5581	4.04	ug/L		99
68) methylcyclohexane	5.138	83	16352	4.13	ug/L		98
69) bromodichloromethane	5.334	83	11010	3.78	ug/L		99
70) epichlorohydrin	5.571	57	7442	18.34	ug/L		98
71) cis-1,3-dichloropropene	5.669	75	14076	3.75	ug/L		98
72) 4-methyl-2-pentanone	5.766	58	21094	15.68	ug/L		97
73) 3-methyl-1-butanol	5.791	55	16105	73.84	ug/L		98
76) toluene	5.955	92	24466	4.06	ug/L		96
77) trans-1,3-dichloropropene	6.120	75	12880	3.73	ug/L		97
78) ethyl methacrylate	6.144	69	13965	3.71	ug/L		96
79) 1,1,2-trichloroethane	6.291	83	6903	3.92	ug/L		95
80) tetrachloroethene	6.394	164	8263	3.81	ug/L		96
81) 1,3-dichloropropane	6.437	76	14028	3.81	ug/L		91
82) 2-hexanone	6.455	58	21889	15.47	ug/L		99
83) butyl acetate	6.547	56	8621	3.82	ug/L		92
84) dibromochloromethane	6.626	129	7806	3.54	ug/L		98
85) 1,2-dibromoethane	6.742	107	10622	3.82	ug/L		99
86) n-butyl ether	7.223	57	37910	3.79	ug/L		99
87) chlorobenzene	7.169	112	25362	3.93	ug/L		98
88) 1,1,1,2-tetrachloroethane	7.242	131	7692	3.44	ug/L		95
89) ethylbenzene	7.248	91	43717	3.86	ug/L		99
90) m,p-xylene	7.364	106	33934	7.69	ug/L		98
91) o-xylene	7.717	106	16729	3.96	ug/L		95
92) styrene	7.736	104	28020	3.82	ug/L		97
93) bromoform	7.912	173	5176	3.14	ug/L		97
94) butyl acrylate	7.638	55	19858	3.60	ug/L		96
95) n-amyl acetate	7.845	70	8439	3.68	ug/L		91
96) isopropylbenzene	8.053	105	42124	3.87	ug/L		99
97) cis-1,4-dichloro-2-butene	8.101	88	4113	3.21	ug/L		91
100) bromobenzene	8.370	156	11094	3.94	ug/L		96
101) 1,1,2,2-tetrachloroethane	8.339	83	12087	3.76	ug/L		99
102) trans-1,4-dichloro-2-b...	8.370	53	3474	3.70	ug/L		91
103) 1,2,3-trichloropropane	8.400	110	4333	4.12	ug/L		98
104) n-propylbenzene	8.449	91	46435	3.79	ug/L		97
105) 2-chlorotoluene	8.546	126	9810	3.84	ug/L	#	85
106) 4-chlorotoluene	8.656	126	9616	3.76	ug/L		93
107) 1,3,5-trimethylbenzene	8.620	105	32915	3.81	ug/L		95
108) tert-butylbenzene	8.930	134	7489	3.96	ug/L	#	83

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145274.D
Acq On : 7 Mar 2019 8:17 pm
Operator : juntaep
Sample : ic6212-4
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 08 17:34:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

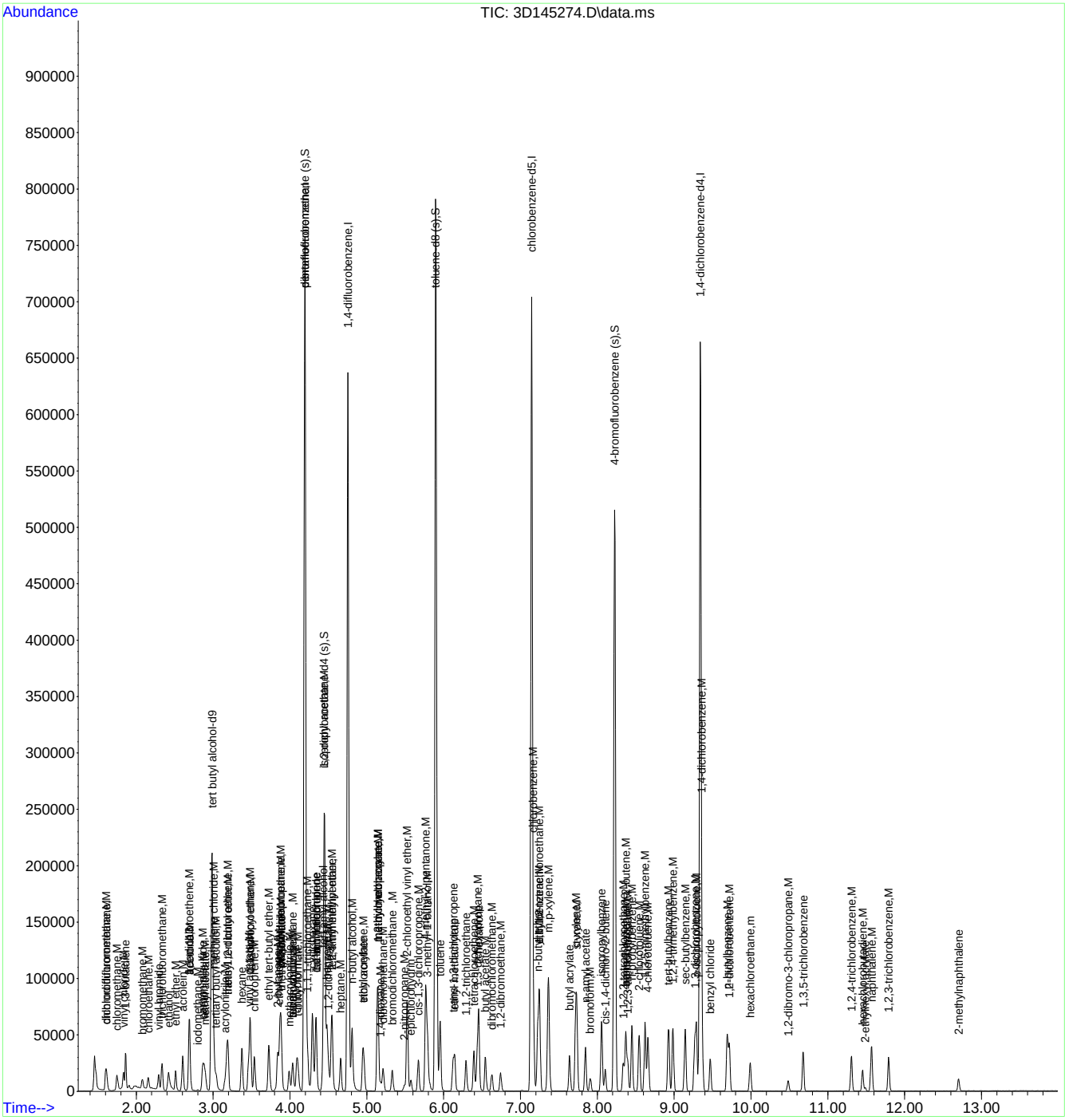
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	32108	3.75 ug/L	97
110) sec-butylbenzene	9.144	105	38285	3.73 ug/L	98
111) 1,3-dichlorobenzene	9.266	146	18899	3.83 ug/L	99
112) p-isopropyltoluene	9.290	119	33214	3.76 ug/L	98
113) 1,4-dichlorobenzene	9.363	146	19637	3.92 ug/L	97
114) benzyl chloride	9.467	91	21516	3.40 ug/L	99
115) 1,2-dichlorobenzene	9.717	146	18038	3.87 ug/L	98
116) n-butylbenzene	9.692	92	15010	3.74 ug/L	97
117) 1,2-dibromo-3-chloropr...	10.479	75	2337	3.41 ug/L	84
118) 1,3,5-trichlorobenzene	10.680	180	12523	3.69 ug/L	97
119) 2-ethylhexyl acrylate	11.485	70	858	0.51 ug/L	90
120) 1,2,4-trichlorobenzene	11.308	180	11079	3.67 ug/L	99
121) hexachlorobutadiene	11.454	225	4274	3.60 ug/L	98
122) naphthalene	11.570	128	33511	3.55 ug/L	98
123) 1,2,3-trichlorobenzene	11.790	180	10142	3.58 ug/L	96
124) hexachloroethane	9.991	201	4265	3.22 ug/L #	78
125) 2-methylnaphthalene	12.704	142	5930	1.43 ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145274.D
Acq On : 7 Mar 2019 8:17 pm
Operator : juntaep
Sample : ic6212-4
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 08 17:34:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145275.D
Acq On : 7 Mar 2019 8:43 pm
Operator : juntaep
Sample : ic6212-8
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 08 17:34:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.987	65	214029	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	324423	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.755	114	448674	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	378727	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	179943	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.200	113	115608	49.58	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.16%				
53) 1,2-dichloroethane-d4 (s)	4.450	65	127721	51.84	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 103.68%				
75) toluene-d8 (s)	5.901	98	486065	50.75	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.50%				
99) 4-bromofluorobenzene (s)	8.223	95	169070	49.71	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.42%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.035	59	21349	40.10	ug/L		90
3) ethanol	2.420	45	40807	839.76	ug/L		96
4) 1,4-dioxane	5.181	88	10223	208.07	ug/L		95
6) chlorodifluoromethane	1.615	51	23084	7.80	ug/L		99
7) dichlorodifluoromethane	1.603	85	26446	7.65	ug/L		99
8) chloromethane	1.749	50	23673	7.80	ug/L		97
9) vinyl chloride	1.834	62	25090	7.75	ug/L		98
10) 1,3-butadiene	1.859	54	20248	8.11	ug/L		97
11) bromomethane	2.078	94	9625	8.23	ug/L		97
12) chloroethane	2.157	64	14604	7.68	ug/L		96
13) trichlorofluoromethane	2.334	101	30988	7.73	ug/L		98
14) vinyl bromide	2.292	106	14152	7.57	ug/L		98
15) ethyl ether	2.511	74	11264	7.71	ug/L		98
16) acrolein	2.609	56	4342	7.47	ug/L		97
17) freon 113	2.688	151	16541	7.86	ug/L		95
18) 1,1-dichloroethene	2.694	96	17467	7.80	ug/L		96
19) acetone	2.694	58	10221	32.04	ug/L		99
20) acetonitrile	2.883	41	38139	80.63	ug/L		99
21) iodomethane	2.804	142	2979	2.35	ug/L		90
22) carbon disulfide	2.859	76	44320	7.83	ug/L		99
23) methylene chloride	3.011	84	18345	8.13	ug/L		97
24) methyl acetate	2.901	43	20370	8.07	ug/L		99
25) methyl tert butyl ether	3.176	73	57960	8.10	ug/L		99
26) trans-1,2-dichloroethene	3.194	96	18755	7.91	ug/L		95
27) di-isopropyl ether	3.480	45	64160	7.91	ug/L		99
28) 2-butanone	3.840	72	14316	31.78	ug/L		100
29) 1,1-dichloroethane	3.486	63	32716	7.89	ug/L		99
30) chloroprene	3.535	53	31750	8.01	ug/L		95
31) acrylonitrile	3.151	53	9945	7.92	ug/L		92
32) hexane	3.377	56	16020	8.02	ug/L		91
33) vinyl acetate	3.456	86	5501	7.81	ug/L	#	92
34) ethyl tert-butyl ether	3.724	59	61444	7.94	ug/L		99
35) ethyl acetate	3.852	45	4510	8.64	ug/L		96
36) 2,2-dichloropropane	3.883	77	27552	7.99	ug/L		99
37) cis-1,2-dichloroethene	3.871	96	20476	8.02	ug/L		99
38) methyl acrylate	3.895	85	3956	7.53	ug/L	#	83
39) propionitrile	3.877	54	42865	80.04	ug/L		77
40) bromochloromethane	4.035	128	9165	7.88	ug/L		99
41) tetrahydrofuran	4.041	72	3820	7.57	ug/L		85
42) chloroform	4.090	85	20620	8.16	ug/L		96
43) t-butyl formate	4.108	59	17298	7.42	ug/L		91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145275.D
Acq On : 7 Mar 2019 8:43 pm
Operator : juntaep
Sample : ic6212-8
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 08 17:34:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) methacrylonitrile	3.992	67	10501	7.88	ug/L		96
46) 1,1,1-trichloroethane	4.230	97	28459	7.82	ug/L		91
47) cyclohexane	4.291	84	29460	7.70	ug/L		99
48) 1,1-dichloropropene	4.334	75	26847	8.04	ug/L		96
49) iso-butyl alcohol	4.334	43	16162	79.05	ug/L		97
50) carbon tetrachloride	4.346	117	24272	7.92	ug/L		97
51) tert amyl alcohol	4.425	55	7143	39.73	ug/L		90
54) n-butyl alcohol	4.809	56	56481	383.14	ug/L		98
55) 2,2,4-trimethylpentane	4.547	57	50877	8.25	ug/L		98
56) benzene	4.480	78	76139	8.08	ug/L		98
57) tert-amyl methyl ether	4.541	87	15138	8.15	ug/L		95
58) heptane	4.663	71	13148	8.10	ug/L		93
59) isopropyl acetate	4.450	87	6197	7.76	ug/L	#	94
60) 1,2-dichloroethane	4.505	62	25551	8.31	ug/L		99
61) trichloroethene	4.950	130	20475	7.97	ug/L		98
62) ethyl acrylate	4.962	55	31693	7.87	ug/L		99
63) 2-nitropropane	5.486	41	5194	7.39	ug/L		95
64) 2-chloroethyl vinyl ether	5.523	63	65367	37.33	ug/L		100
65) methyl methacrylate	5.145	69	23712	7.87	ug/L		92
66) 1,2-dichloropropane	5.145	63	18376	7.92	ug/L		98
67) dibromomethane	5.212	93	10936	7.92	ug/L		91
68) methylcyclohexane	5.139	83	32483	8.22	ug/L		98
69) bromodichloromethane	5.334	83	22241	7.64	ug/L		99
70) epichlorohydrin	5.571	57	15260	37.64	ug/L		96
71) cis-1,3-dichloropropene	5.669	75	29227	7.79	ug/L		98
72) 4-methyl-2-pentanone	5.767	58	43272	32.19	ug/L		99
73) 3-methyl-1-butanol	5.791	55	32825	150.64	ug/L		99
76) toluene	5.955	92	48447	8.13	ug/L		96
77) trans-1,3-dichloropropene	6.120	75	26449	7.75	ug/L		98
78) ethyl methacrylate	6.144	69	29312	7.89	ug/L		99
79) 1,1,2-trichloroethane	6.291	83	13842	7.96	ug/L		97
80) tetrachloroethene	6.394	164	17156	8.01	ug/L		97
81) 1,3-dichloropropane	6.437	76	29005	7.98	ug/L		99
82) 2-hexanone	6.455	58	44474	31.82	ug/L		99
83) butyl acetate	6.541	56	17309	7.76	ug/L		97
84) dibromochloromethane	6.626	129	15982	7.33	ug/L		96
85) 1,2-dibromoethane	6.742	107	21583	7.87	ug/L		92
86) n-butyl ether	7.224	57	80306	8.14	ug/L		99
87) chlorobenzene	7.169	112	51081	8.01	ug/L		98
88) 1,1,1,2-tetrachloroethane	7.242	131	16597	7.52	ug/L		97
89) ethylbenzene	7.248	91	89951	8.04	ug/L		99
90) m,p-xylene	7.364	106	70121	16.09	ug/L		99
91) o-xylene	7.717	106	33614	8.05	ug/L		98
92) styrene	7.736	104	57461	7.94	ug/L		98
93) bromoform	7.912	173	11332	6.97	ug/L		95
94) butyl acrylate	7.638	55	41179	7.57	ug/L		96
95) n-amyl acetate	7.845	70	17468	7.71	ug/L		97
96) isopropylbenzene	8.059	105	86636	8.06	ug/L		99
97) cis-1,4-dichloro-2-butene	8.108	88	8484	6.70	ug/L		98
100) bromobenzene	8.370	156	22075	7.84	ug/L		97
101) 1,1,2,2-tetrachloroethane	8.339	83	24931	7.75	ug/L		94
102) trans-1,4-dichloro-2-b...	8.370	53	6873	7.31	ug/L		98
103) 1,2,3-trichloropropane	8.400	110	8687	8.24	ug/L		97
104) n-propylbenzene	8.449	91	95019	7.75	ug/L		98
105) 2-chlorotoluene	8.546	126	19938	7.80	ug/L		91
106) 4-chlorotoluene	8.662	126	19963	7.80	ug/L		96
107) 1,3,5-trimethylbenzene	8.620	105	68365	7.90	ug/L		97
108) tert-butylbenzene	8.924	134	15111	7.98	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145275.D
Acq On : 7 Mar 2019 8:43 pm
Operator : juntaep
Sample : ic6212-8
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 08 17:34:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

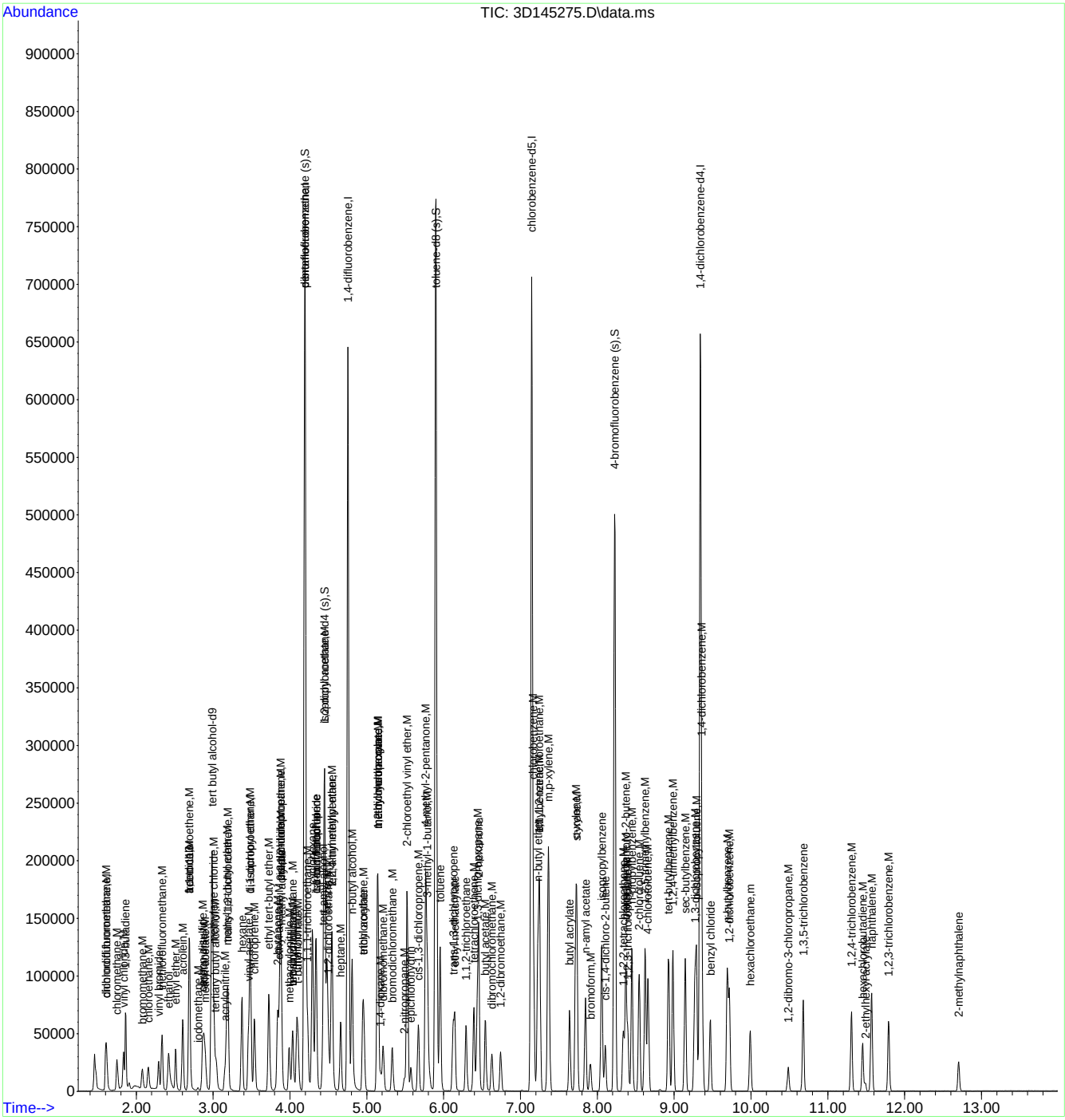
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	68448	7.98 ug/L	99
110) sec-butylbenzene	9.144	105	81245	7.91 ug/L	98
111) 1,3-dichlorobenzene	9.266	146	39295	7.96 ug/L	99
112) p-isopropyltoluene	9.290	119	69803	7.90 ug/L	99
113) 1,4-dichlorobenzene	9.363	146	39827	7.94 ug/L	97
114) benzyl chloride	9.473	91	44948	7.09 ug/L	100
115) 1,2-dichlorobenzene	9.717	146	37170	7.96 ug/L	97
116) n-butylbenzene	9.693	92	31060	7.72 ug/L	99
117) 1,2-dibromo-3-chloropr...	10.485	75	4731	6.90 ug/L	98
118) 1,3,5-trichlorobenzene	10.680	180	26399	7.77 ug/L	99
119) 2-ethylhexyl acrylate	11.491	70	2107	1.24 ug/L #	82
120) 1,2,4-trichlorobenzene	11.308	180	22705	7.51 ug/L	98
121) hexachlorobutadiene	11.454	225	9286	7.82 ug/L	98
122) naphthalene	11.570	128	68898	7.29 ug/L	99
123) 1,2,3-trichlorobenzene	11.796	180	21551	7.60 ug/L	94
124) hexachloroethane	9.991	201	8837	6.67 ug/L	89
125) 2-methylnaphthalene	12.704	142	13035	3.13 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145275.D
Acq On : 7 Mar 2019 8:43 pm
Operator : juntaep
Sample : ic6212-8
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 08 17:34:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145276.D
Acq On : 7 Mar 2019 9:08 pm
Operator : juntaep
Sample : ic6212-20
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 08 17:34:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.987	65	214460	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	322889	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.755	114	449969	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	382190	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.345	152	177453	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	115082	49.59	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.18%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	123039	49.80	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 99.60%			
75) toluene-d8 (s)	5.895	98	488236	50.52	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.04%			
99) 4-bromofluorobenzene (s)	8.223	95	167945	50.07	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.14%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.035	59	53732	100.71	ug/L	99
3) ethanol	2.420	45	100168	2057.20	ug/L	96
4) 1,4-dioxane	5.181	88	25748	522.99	ug/L	98
6) chlorodifluoromethane	1.615	51	58572	19.88	ug/L	98
7) dichlorodifluoromethane	1.597	85	68431	19.88	ug/L	99
8) chloromethane	1.749	50	59675	19.77	ug/L	98
9) vinyl chloride	1.828	62	63772	19.79	ug/L	99
10) 1,3-butadiene	1.859	54	50193	20.20	ug/L	99
11) bromomethane	2.072	94	23942	20.58	ug/L	99
12) chloroethane	2.151	64	37570	19.84	ug/L	97
13) trichlorofluoromethane	2.334	101	78391	19.64	ug/L	99
14) vinyl bromide	2.285	106	36407	19.57	ug/L	99
15) ethyl ether	2.511	74	28494	19.59	ug/L	98
16) acrolein	2.609	56	11024	19.06	ug/L	97
17) freon 113	2.688	151	42430	20.27	ug/L	99
18) 1,1-dichloroethene	2.688	96	44997	20.19	ug/L	99
19) acetone	2.694	58	25093	79.02	ug/L	98
20) acetonitrile	2.883	41	93960	199.57	ug/L	99
21) iodomethane	2.804	142	13238	10.50	ug/L	96
22) carbon disulfide	2.859	76	112583	20.00	ug/L	99
23) methylene chloride	3.011	84	44932	20.02	ug/L	99
24) methyl acetate	2.901	43	51595	20.55	ug/L	99
25) methyl tert butyl ether	3.176	73	143770	20.19	ug/L	98
26) trans-1,2-dichloroethene	3.194	96	47116	19.97	ug/L	98
27) di-isopropyl ether	3.480	45	160380	19.87	ug/L	99
28) 2-butanone	3.834	72	35225	78.56	ug/L	92
29) 1,1-dichloroethane	3.486	63	81547	19.75	ug/L	99
30) chloroprene	3.535	53	78349	19.85	ug/L	99
31) acrylonitrile	3.151	53	24661	19.73	ug/L	100
32) hexane	3.377	56	39702	19.97	ug/L	95
33) vinyl acetate	3.456	86	14314	20.43	ug/L	94
34) ethyl tert-butyl ether	3.724	59	153427	19.93	ug/L	99
35) ethyl acetate	3.846	45	10380	19.98	ug/L #	20
36) 2,2-dichloropropane	3.877	77	70134	20.44	ug/L	99
37) cis-1,2-dichloroethene	3.864	96	51548	20.27	ug/L	98
38) methyl acrylate	3.895	85	10166	19.44	ug/L	91
39) propionitrile	3.877	54	106571	199.95	ug/L	80
40) bromochloromethane	4.035	128	23614	20.39	ug/L	94
41) tetrahydrofuran	4.041	72	9748	19.42	ug/L	97
42) chloroform	4.084	85	50273	19.98	ug/L	98
43) t-butyl formate	4.102	59	45797	19.73	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145276.D
Acq On : 7 Mar 2019 9:08 pm
Operator : juntaep
Sample : ic6212-20
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 08 17:34:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) methacrylonitrile	3.986	67	25793	19.44	ug/L	98
46) 1,1,1-trichloroethane	4.230	97	72555	20.03	ug/L	99
47) cyclohexane	4.291	84	75708	19.89	ug/L	100
48) 1,1-dichloropropene	4.334	75	66565	20.04	ug/L	98
49) iso-butyl alcohol	4.334	43	39978	196.46	ug/L	97
50) carbon tetrachloride	4.340	117	60449	19.82	ug/L	98
51) tert amyl alcohol	4.425	55	18365	102.64	ug/L	98
54) n-butyl alcohol	4.809	56	145910	986.94	ug/L	99
55) 2,2,4-trimethylpentane	4.547	57	124506	20.13	ug/L	98
56) benzene	4.480	78	192469	20.37	ug/L	100
57) tert-amyl methyl ether	4.541	87	37810	20.30	ug/L	97
58) heptane	4.657	71	32526	19.98	ug/L	98
59) isopropyl acetate	4.450	87	16157	20.17	ug/L	98
60) 1,2-dichloroethane	4.505	62	62036	20.12	ug/L	98
61) trichloroethene	4.950	130	51876	20.13	ug/L	99
62) ethyl acrylate	4.962	55	81424	20.17	ug/L	99
63) 2-nitropropane	5.486	41	13346	18.93	ug/L	98
64) 2-chloroethyl vinyl ether	5.523	63	171901	97.89	ug/L	99
65) methyl methacrylate	5.145	69	59811	19.79	ug/L	97
66) 1,2-dichloropropane	5.145	63	46416	19.94	ug/L	98
67) dibromomethane	5.212	93	27702	20.00	ug/L	96
68) methylcyclohexane	5.139	83	79255	19.99	ug/L	99
69) bromodichloromethane	5.334	83	57134	19.57	ug/L	97
70) epichlorohydrin	5.571	57	40063	98.52	ug/L	96
71) cis-1,3-dichloropropene	5.669	75	74699	19.86	ug/L	99
72) 4-methyl-2-pentanone	5.767	58	108630	80.59	ug/L	98
73) 3-methyl-1-butanol	5.785	55	84061	384.65	ug/L	92
76) toluene	5.955	92	120858	20.10	ug/L	98
77) trans-1,3-dichloropropene	6.120	75	67676	19.64	ug/L	99
78) ethyl methacrylate	6.144	69	74718	19.92	ug/L	99
79) 1,1,2-trichloroethane	6.291	83	35382	20.16	ug/L	98
80) tetrachloroethene	6.394	164	43464	20.11	ug/L	98
81) 1,3-dichloropropane	6.437	76	73654	20.08	ug/L	97
82) 2-hexanone	6.455	58	112809	79.97	ug/L	99
83) butyl acetate	6.541	56	43882	19.50	ug/L	98
84) dibromochloromethane	6.626	129	41603	18.91	ug/L	99
85) 1,2-dibromoethane	6.742	107	54853	19.81	ug/L	98
86) n-butyl ether	7.224	57	198455	19.93	ug/L	99
87) chlorobenzene	7.169	112	127512	19.82	ug/L	98
88) 1,1,1,2-tetrachloroethane	7.242	131	43425	19.49	ug/L	98
89) ethylbenzene	7.248	91	226971	20.09	ug/L	100
90) m,p-xylene	7.364	106	176215	40.07	ug/L	99
91) o-xylene	7.717	106	84318	20.01	ug/L	98
92) styrene	7.736	104	144950	19.84	ug/L	98
93) bromoform	7.912	173	30738	18.72	ug/L	96
94) butyl acrylate	7.638	55	107555	19.59	ug/L	99
95) n-amyl acetate	7.845	70	45221	19.77	ug/L	99
96) isopropylbenzene	8.059	105	216974	20.00	ug/L	100
97) cis-1,4-dichloro-2-butene	8.101	88	23361	18.27	ug/L	97
100) bromobenzene	8.370	156	55769	20.07	ug/L	97
101) 1,1,2,2-tetrachloroethane	8.339	83	62221	19.61	ug/L	99
102) trans-1,4-dichloro-2-b...	8.370	53	18237	19.66	ug/L	95
103) 1,2,3-trichloropropane	8.400	110	21000	20.20	ug/L	98
104) n-propylbenzene	8.449	91	244019	20.19	ug/L	98
105) 2-chlorotoluene	8.546	126	51290	20.34	ug/L	94
106) 4-chlorotoluene	8.662	126	50649	20.07	ug/L	94
107) 1,3,5-trimethylbenzene	8.620	105	172798	20.25	ug/L	99
108) tert-butylbenzene	8.931	134	38390	20.56	ug/L	93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145276.D
Acq On : 7 Mar 2019 9:08 pm
Operator : juntaep
Sample : ic6212-20
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 08 17:34:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

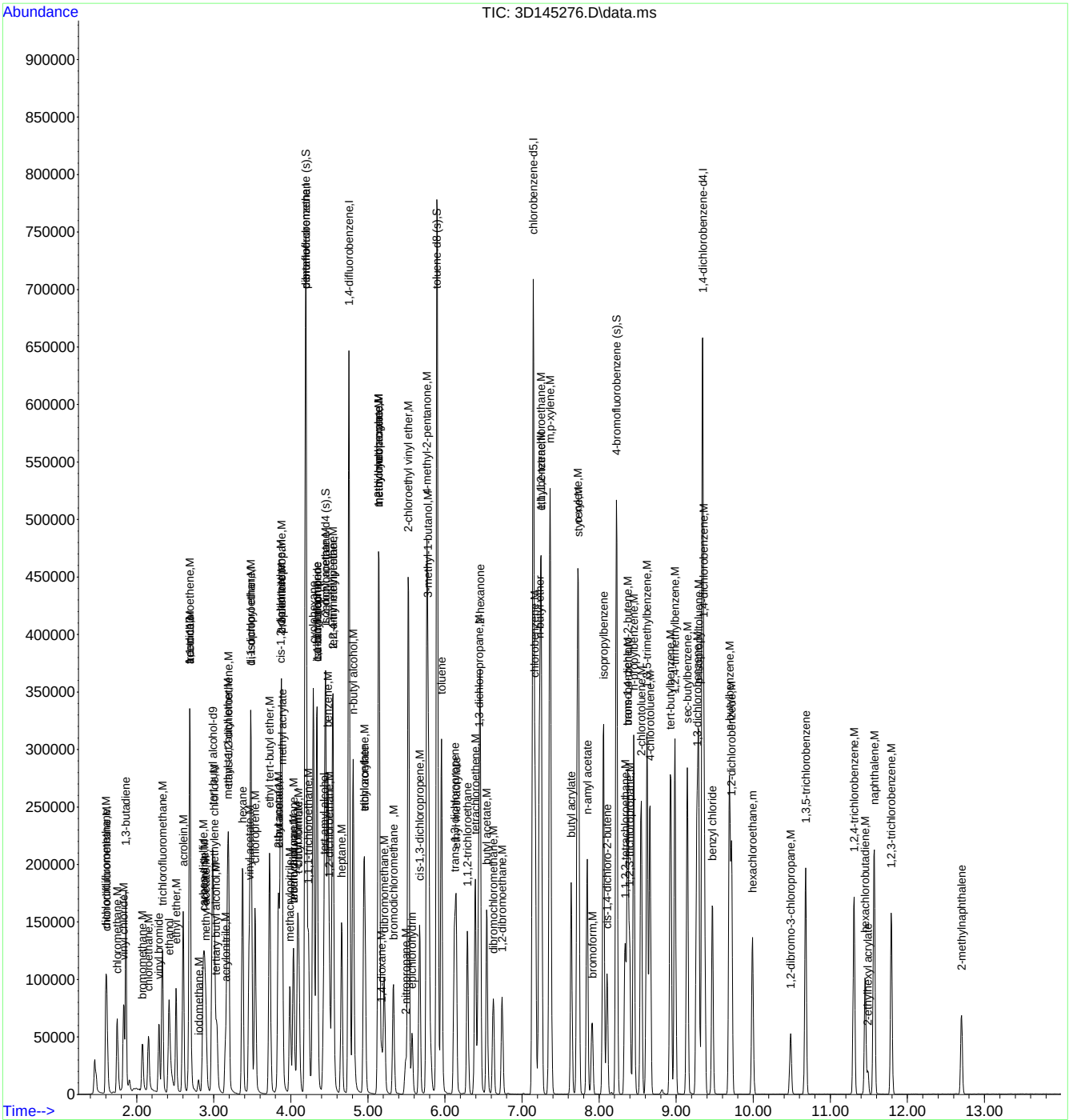
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	168705	19.94	ug/L	98
110) sec-butylbenzene	9.144	105	203497	20.09	ug/L	100
111) 1,3-dichlorobenzene	9.266	146	98501	20.24	ug/L	98
112) p-isopropyltoluene	9.290	119	173222	19.88	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	99527	20.13	ug/L	99
114) benzyl chloride	9.473	91	120718	19.32	ug/L	98
115) 1,2-dichlorobenzene	9.717	146	94796	20.58	ug/L	99
116) n-butylbenzene	9.693	92	78565	19.81	ug/L	100
117) 1,2-dibromo-3-chloropr...	10.485	75	12599	18.64	ug/L	95
118) 1,3,5-trichlorobenzene	10.680	180	65914	19.67	ug/L	100
119) 2-ethylhexyl acrylate	11.485	70	5632	3.37	ug/L	97
120) 1,2,4-trichlorobenzene	11.308	180	58739	19.69	ug/L	99
121) hexachlorobutadiene	11.448	225	22686	19.38	ug/L	98
122) naphthalene	11.570	128	181308	19.45	ug/L	98
123) 1,2,3-trichlorobenzene	11.790	180	53636	19.18	ug/L	98
124) hexachloroethane	9.991	201	23827	18.24	ug/L	93
125) 2-methylnaphthalene	12.704	142	35423	8.64	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145276.D
Acq On : 7 Mar 2019 9:08 pm
Operator : juntaep
Sample : ic6212-20
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 08 17:34:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145277.D
Acq On : 7 Mar 2019 9:33 pm
Operator : juntaep
Sample : icc6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 08 17:34:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.986	65	225616	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	332373	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.754	114	464326	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	393376	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	184438	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.200	113	119445	50.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.00%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	128353	50.34	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 100.68%			
75) toluene-d8 (s)	5.901	98	497397	50.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.00%			
99) 4-bromofluorobenzene (s)	8.223	95	174305	50.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.00%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.041	59	140319	250.00	ug/L	100
3) ethanol	2.420	45	256122	5000.00	ug/L	100
4) 1,4-dioxane	5.181	88	64742	1250.00	ug/L	100
6) chlorodifluoromethane	1.615	51	151664	50.00	ug/L	100
7) dichlorodifluoromethane	1.597	85	177188	50.00	ug/L	100
8) chloromethane	1.749	50	155385	50.00	ug/L	100
9) vinyl chloride	1.834	62	165887	50.00	ug/L	100
10) 1,3-butadiene	1.859	54	127906	50.00	ug/L	100
11) bromomethane	2.072	94	59884	50.00	ug/L	100
12) chloroethane	2.151	64	97454	50.00	ug/L	100
13) trichlorofluoromethane	2.328	101	205448	50.00	ug/L	100
14) vinyl bromide	2.285	106	95734	50.00	ug/L	100
15) ethyl ether	2.511	74	74860	50.00	ug/L	100
16) acrolein	2.609	56	29770	50.00	ug/L	100
17) freon 113	2.688	151	107739	50.00	ug/L	100
18) 1,1-dichloroethene	2.688	96	114687	50.00	ug/L	100
19) acetone	2.694	58	65374	200.00	ug/L	100
20) acetonitrile	2.883	41	242315	500.00	ug/L	100
21) iodomethane	2.804	142	64891	50.00	ug/L	100
22) carbon disulfide	2.858	76	289789	50.00	ug/L	100
23) methylene chloride	3.011	84	115527	50.00	ug/L	100
24) methyl acetate	2.901	43	130263	50.40	ug/L	100
25) methyl tert butyl ether	3.175	73	366459	50.00	ug/L	100
26) trans-1,2-dichloroethene	3.194	96	121438	50.00	ug/L	100
27) di-isopropyl ether	3.480	45	415440	50.00	ug/L	100
28) 2-butanone	3.834	72	92314	200.00	ug/L	100
29) 1,1-dichloroethane	3.486	63	208385	49.02	ug/L	100
30) chloroprene	3.535	53	203116	50.00	ug/L	100
31) acrylonitrile	3.151	53	64344	50.00	ug/L	100
32) hexane	3.371	56	102305	50.00	ug/L	100
33) vinyl acetate	3.456	86	36404	50.47	ug/L	99
34) ethyl tert-butyl ether	3.724	59	396276	50.00	ug/L	100
35) ethyl acetate	3.852	45	27279	51.00	ug/L	99
36) 2,2-dichloropropane	3.877	77	176630	50.00	ug/L	100
37) cis-1,2-dichloroethene	3.870	96	130857	50.00	ug/L	100
38) methyl acrylate	3.895	85	26916	50.00	ug/L	100
39) propionitrile	3.883	54	274326	500.00	ug/L	100
40) bromochloromethane	4.035	128	59599	50.00	ug/L	100
41) tetrahydrofuran	4.041	72	24711	47.82	ug/L	97
42) chloroform	4.084	85	129477	50.00	ug/L	100
43) t-butyl formate	4.108	59	119464	50.00	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145277.D
Acq On : 7 Mar 2019 9:33 pm
Operator : juntaep
Sample : icc6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 08 17:34:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) methacrylonitrile	3.986	67	68274	50.00	ug/L	100
46) 1,1,1-trichloroethane	4.230	97	186407	50.00	ug/L	100
47) cyclohexane	4.291	84	195783	49.96	ug/L	100
48) 1,1-dichloropropene	4.334	75	170975	50.00	ug/L	100
49) iso-butyl alcohol	4.334	43	107309	512.29	ug/L	100
50) carbon tetrachloride	4.346	117	157007	50.00	ug/L	100
51) tert amyl alcohol	4.425	55	45946	249.46	ug/L	100
54) n-butyl alcohol	4.809	56	380621	2494.92	ug/L	100
55) 2,2,4-trimethylpentane	4.547	57	319183	50.00	ug/L	100
56) benzene	4.480	78	487606	50.00	ug/L	100
57) tert-amyl methyl ether	4.547	87	96122	50.00	ug/L	100
58) heptane	4.657	71	83986	50.00	ug/L	100
59) isopropyl acetate	4.450	87	41332	50.00	ug/L	100
60) 1,2-dichloroethane	4.498	62	159068	50.00	ug/L	100
61) trichloroethene	4.950	130	132954	50.00	ug/L	100
62) ethyl acrylate	4.962	55	208324	50.02	ug/L	100
63) 2-nitropropane	5.486	41	36383	50.00	ug/L	100
64) 2-chloroethyl vinyl ether	5.523	63	453004	250.00	ug/L	100
65) methyl methacrylate	5.145	69	155930	50.00	ug/L	100
66) 1,2-dichloropropane	5.145	63	120079	50.00	ug/L	100
67) dibromomethane	5.212	93	71470	50.00	ug/L	100
68) methylcyclohexane	5.139	83	204584	50.00	ug/L	100
69) bromodichloromethane	5.334	83	150623	50.00	ug/L	100
70) epichlorohydrin	5.571	57	104901	250.00	ug/L	100
71) cis-1,3-dichloropropene	5.669	75	194107	50.00	ug/L	100
72) 4-methyl-2-pentanone	5.766	58	278190	200.00	ug/L	100
73) 3-methyl-1-butanol	5.791	55	225510	1000.00	ug/L	100
76) toluene	5.955	92	309451	50.00	ug/L	100
77) trans-1,3-dichloropropene	6.120	75	177300	50.00	ug/L	100
78) ethyl methacrylate	6.144	69	193039	50.00	ug/L	100
79) 1,1,2-trichloroethane	6.291	83	90337	50.00	ug/L	100
80) tetrachloroethene	6.394	164	111227	50.00	ug/L	100
81) 1,3-dichloropropane	6.437	76	188800	50.00	ug/L	100
82) 2-hexanone	6.455	58	290368	200.00	ug/L	100
83) butyl acetate	6.541	56	115839	50.00	ug/L	100
84) dibromochloromethane	6.626	129	113241	50.00	ug/L	100
85) 1,2-dibromoethane	6.742	107	142476	50.00	ug/L	100
86) n-butyl ether	7.223	57	512502	50.00	ug/L	100
87) chlorobenzene	7.175	112	331096	50.00	ug/L	100
88) 1,1,1,2-tetrachloroethane	7.242	131	114643	50.00	ug/L	100
89) ethylbenzene	7.248	91	581326	50.00	ug/L	100
90) m,p-xylene	7.364	106	452660	100.00	ug/L	100
91) o-xylene	7.717	106	216822	50.00	ug/L	100
92) styrene	7.736	104	376063	50.00	ug/L	100
93) bromoform	7.912	173	84485	50.00	ug/L	100
94) butyl acrylate	7.638	55	282593	50.00	ug/L	100
95) n-amyl acetate	7.845	70	117729	50.00	ug/L	100
96) isopropylbenzene	8.059	105	558401	50.00	ug/L	100
97) cis-1,4-dichloro-2-butene	8.101	88	65806	50.00	ug/L	100
100) bromobenzene	8.370	156	144372	50.00	ug/L	100
101) 1,1,2,2-tetrachloroethane	8.339	83	164872	50.00	ug/L	100
102) trans-1,4-dichloro-2-b...	8.370	53	48217	50.00	ug/L	100
103) 1,2,3-trichloropropane	8.400	110	54018	50.00	ug/L	100
104) n-propylbenzene	8.449	91	628139	50.00	ug/L	100
105) 2-chlorotoluene	8.546	126	131052	50.00	ug/L	100
106) 4-chlorotoluene	8.656	126	131132	50.00	ug/L	100
107) 1,3,5-trimethylbenzene	8.620	105	443537	50.00	ug/L	100
108) tert-butylbenzene	8.924	134	97043	50.00	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145277.D
Acq On : 7 Mar 2019 9:33 pm
Operator : juntaep
Sample : icc6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 08 17:34:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

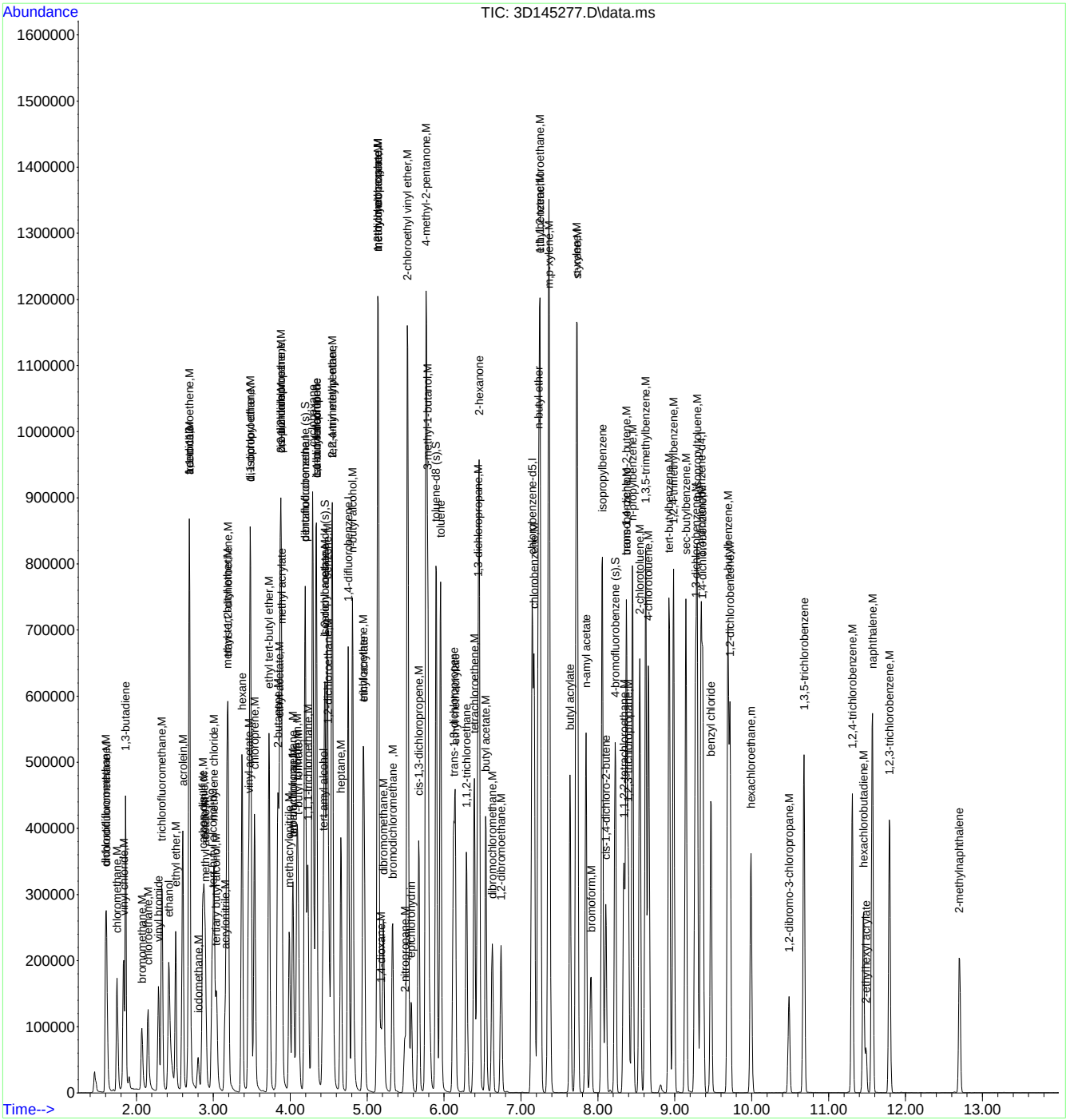
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	439701	50.00	ug/L	100
110) sec-butylbenzene	9.144	105	526280	50.00	ug/L	100
111) 1,3-dichlorobenzene	9.266	146	252953	50.02	ug/L	100
112) p-isopropyltoluene	9.290	119	452845	50.00	ug/L	100
113) 1,4-dichlorobenzene	9.363	146	256952	50.00	ug/L	100
114) benzyl chloride	9.467	91	327604	50.44	ug/L	100
115) 1,2-dichlorobenzene	9.717	146	239429	50.00	ug/L	100
116) n-butylbenzene	9.693	92	206150	50.00	ug/L	100
117) 1,2-dibromo-3-chloropr...	10.485	75	35128	50.00	ug/L	100
118) 1,3,5-trichlorobenzene	10.680	180	174147	50.00	ug/L	100
119) 2-ethylhexyl acrylate	11.485	70	17385	10.00	ug/L	100
120) 1,2,4-trichlorobenzene	11.308	180	154996	50.00	ug/L	100
121) hexachlorobutadiene	11.454	225	60844	50.00	ug/L	100
122) naphthalene	11.570	128	484311	50.00	ug/L	100
123) 1,2,3-trichlorobenzene	11.796	180	145363	50.00	ug/L	100
124) hexachloroethane	9.991	201	67896	50.00	ug/L	100
125) 2-methylnaphthalene	12.704	142	106583	25.00	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145277.D
Acq On : 7 Mar 2019 9:33 pm
Operator : juntaep
Sample : icc6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 08 17:34:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145278.D
Acq On : 7 Mar 2019 9:58 pm
Operator : juntaep
Sample : ic6212-100
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 08 17:34:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.987	65	221946	500.00	ug/L	0.00
5) pentafluorobenzene	4.194	168	317315	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.755	114	444227	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	384624	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	178165	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.194	113	114157	50.05	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.10%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	122388	50.18	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 100.36%			
75) toluene-d8 (s)	5.901	98	484541	49.82	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.64%			
99) 4-bromofluorobenzene (s)	8.223	95	169516	50.34	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.68%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.041	59	272807	494.08	ug/L	98
3) ethanol	2.426	45	484592	9616.61	ug/L	97
4) 1,4-dioxane	5.181	88	125175	2456.77	ug/L	99
6) chlorodifluoromethane	1.615	51	291548	100.68	ug/L	99
7) dichlorodifluoromethane	1.597	85	332028	98.14	ug/L	99
8) chloromethane	1.749	50	293307	98.86	ug/L	100
9) vinyl chloride	1.834	62	313025	98.83	ug/L	100
10) 1,3-butadiene	1.859	54	244235	100.01	ug/L	99
11) bromomethane	2.060	94	112845	98.69	ug/L	99
12) chloroethane	2.145	64	183417	98.57	ug/L	98
13) trichlorofluoromethane	2.328	101	381653	97.29	ug/L	97
14) vinyl bromide	2.285	106	181609	99.35	ug/L	100
15) ethyl ether	2.511	74	142044	99.38	ug/L	98
16) acrolein	2.609	56	56334	99.11	ug/L	99
17) freon 113	2.682	151	205472	99.88	ug/L	94
18) 1,1-dichloroethene	2.688	96	221484	101.14	ug/L	98
19) acetone	2.694	58	125777	403.05	ug/L	94
20) acetonitrile	2.883	41	470792	1017.55	ug/L	99
21) iodomethane	2.804	142	159900	129.05	ug/L	99
22) carbon disulfide	2.859	76	563887	101.91	ug/L	99
23) methylene chloride	3.011	84	222762	100.99	ug/L	100
24) methyl acetate	2.901	43	255159	103.40	ug/L	100
25) methyl tert butyl ether	3.176	73	708931	101.32	ug/L	98
26) trans-1,2-dichloroethene	3.194	96	231933	100.03	ug/L	97
27) di-isopropyl ether	3.480	45	786540	99.16	ug/L	99
28) 2-butanone	3.834	72	177764	403.41	ug/L	94
29) 1,1-dichloroethane	3.480	63	396587	97.73	ug/L	99
30) chloroprene	3.535	53	387051	99.80	ug/L	99
31) acrylonitrile	3.151	53	124230	101.12	ug/L	99
32) hexane	3.371	56	199532	102.15	ug/L	97
33) vinyl acetate	3.456	86	71322	103.57	ug/L	99
34) ethyl tert-butyl ether	3.724	59	754972	99.78	ug/L	99
35) ethyl acetate	3.852	45	52340	102.50	ug/L	95
36) 2,2-dichloropropane	3.877	77	334657	99.23	ug/L	99
37) cis-1,2-dichloroethene	3.864	96	251934	100.83	ug/L	98
38) methyl acrylate	3.895	85	52180	101.53	ug/L #	87
39) propionitrile	3.883	54	533291	1018.13	ug/L	99
40) bromochloromethane	4.029	128	110731	97.31	ug/L	93
41) tetrahydrofuran	4.041	72	47603	96.48	ug/L	96
42) chloroform	4.090	85	248092	100.35	ug/L	98
43) t-butyl formate	4.108	59	234532	102.82	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145278.D
Acq On : 7 Mar 2019 9:58 pm
Operator : juntaep
Sample : ic6212-100
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 08 17:34:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
45) methacrylonitrile	3.992	67	132101	101.33 ug/L	94
46) 1,1,1-trichloroethane	4.230	97	358647	100.77 ug/L	100
47) cyclohexane	4.291	84	367539	98.23 ug/L	100
48) 1,1-dichloropropene	4.334	75	331423	101.52 ug/L	99
49) iso-butyl alcohol	4.340	43	211427	1057.24 ug/L	99
50) carbon tetrachloride	4.340	117	307898	102.71 ug/L	99
51) tert amyl alcohol	4.431	55	87726	498.91 ug/L	87
54) n-butyl alcohol	4.815	56	745451	5107.41 ug/L	98
55) 2,2,4-trimethylpentane	4.547	57	616818	101.00 ug/L	98
56) benzene	4.480	78	935741	100.29 ug/L	99
57) tert-amyl methyl ether	4.541	87	184162	100.13 ug/L	98
58) heptane	4.657	71	162281	100.98 ug/L	99
59) isopropyl acetate	4.450	87	79634	100.69 ug/L	98
60) 1,2-dichloroethane	4.498	62	299691	98.46 ug/L	99
61) trichloroethene	4.950	130	257175	101.09 ug/L	99
62) ethyl acrylate	4.962	55	403250	101.20 ug/L	98
63) 2-nitropropane	5.486	41	75277	108.13 ug/L	99
64) 2-chloroethyl vinyl ether	5.529	63	885288	510.67 ug/L	99
65) methyl methacrylate	5.145	69	299929	100.53 ug/L	99
66) 1,2-dichloropropane	5.145	63	230447	100.30 ug/L	99
67) dibromomethane	5.212	93	137625	100.64 ug/L	96
68) methylcyclohexane	5.139	83	394955	100.89 ug/L	100
69) bromodichloromethane	5.334	83	294527	102.19 ug/L	98
70) epichlorohydrin	5.578	57	202455	504.32 ug/L	97
71) cis-1,3-dichloropropene	5.669	75	376860	101.47 ug/L	99
72) 4-methyl-2-pentanone	5.766	58	536377	403.07 ug/L	97
73) 3-methyl-1-butanol	5.791	55	440668	2042.51 ug/L	99
76) toluene	5.955	92	604647	99.92 ug/L	99
77) trans-1,3-dichloropropene	6.120	75	347987	100.37 ug/L	99
78) ethyl methacrylate	6.144	69	377236	99.93 ug/L	100
79) 1,1,2-trichloroethane	6.291	83	174526	98.80 ug/L	97
80) tetrachloroethene	6.394	164	215196	98.94 ug/L	98
81) 1,3-dichloropropane	6.437	76	363393	98.43 ug/L	100
82) 2-hexanone	6.455	58	563205	396.75 ug/L	100
83) butyl acetate	6.541	56	220598	97.38 ug/L	97
84) dibromochloromethane	6.626	129	227494	102.73 ug/L	99
85) 1,2-dibromoethane	6.742	107	275502	98.88 ug/L	99
86) n-butyl ether	7.224	57	996951	99.48 ug/L	99
87) chlorobenzene	7.175	112	635636	98.17 ug/L	99
88) 1,1,1,2-tetrachloroethane	7.242	131	225518	100.59 ug/L	99
89) ethylbenzene	7.248	91	1117411	98.30 ug/L	100
90) m,p-xylene	7.364	106	871882	197.00 ug/L	98
91) o-xylene	7.717	106	416538	98.24 ug/L	98
92) styrene	7.736	104	728361	99.04 ug/L	99
93) bromoform	7.912	173	173740	105.16 ug/L	98
94) butyl acrylate	7.638	55	548639	99.28 ug/L	98
95) n-amyl acetate	7.845	70	228839	99.40 ug/L	98
96) isopropylbenzene	8.059	105	1082549	99.14 ug/L	99
97) cis-1,4-dichloro-2-butene	8.101	88	130197	101.18 ug/L	97
100) bromobenzene	8.370	156	276836	99.25 ug/L	99
101) 1,1,2,2-tetrachloroethane	8.339	83	315655	99.10 ug/L	98
102) trans-1,4-dichloro-2-b...	8.376	53	95178	102.17 ug/L	87
103) 1,2,3-trichloropropane	8.400	110	105253	100.85 ug/L	96
104) n-propylbenzene	8.449	91	1231735	101.49 ug/L	99
105) 2-chlorotoluene	8.546	126	255345	100.85 ug/L	98
106) 4-chlorotoluene	8.662	126	255168	100.72 ug/L	95
107) 1,3,5-trimethylbenzene	8.620	105	860789	100.45 ug/L	100
108) tert-butylbenzene	8.931	134	191289	102.03 ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145278.D
Acq On : 7 Mar 2019 9:58 pm
Operator : juntaep
Sample : ic6212-100
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 08 17:34:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

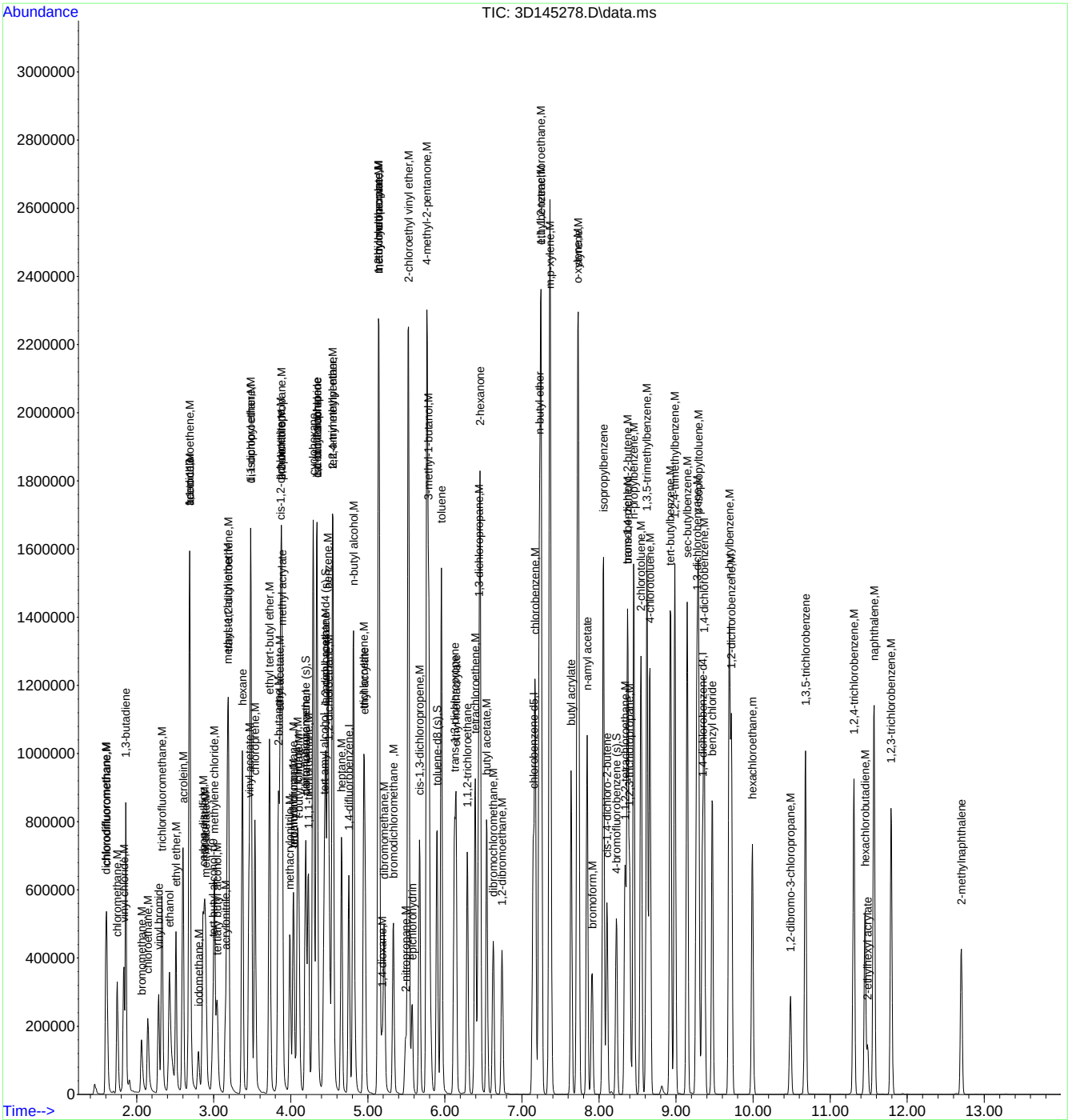
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	854891	100.64 ug/L	99
110) sec-butylbenzene	9.144	105	1034738	101.77 ug/L	99
111) 1,3-dichlorobenzene	9.266	146	489709	100.24 ug/L	99
112) p-isopropyltoluene	9.290	119	881304	100.73 ug/L	99
113) 1,4-dichlorobenzene	9.363	146	500944	100.91 ug/L	99
114) benzyl chloride	9.467	91	634216	101.09 ug/L	99
115) 1,2-dichlorobenzene	9.717	146	463071	100.11 ug/L	100
116) n-butylbenzene	9.693	92	408612	102.59 ug/L	100
117) 1,2-dibromo-3-chloropr...	10.485	75	69027	101.71 ug/L	93
118) 1,3,5-trichlorobenzene	10.680	180	340242	101.13 ug/L	98
119) 2-ethylhexyl acrylate	11.485	70	36088	21.49 ug/L	96
120) 1,2,4-trichlorobenzene	11.308	180	312449	104.34 ug/L	99
121) hexachlorobutadiene	11.454	225	119676	101.81 ug/L	99
122) naphthalene	11.570	128	963410	102.96 ug/L	100
123) 1,2,3-trichlorobenzene	11.790	180	288081	102.58 ug/L	99
124) hexachloroethane	9.991	201	138959	105.94 ug/L	97
125) 2-methylnaphthalene	12.704	142	222384	54.00 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145278.D
Acq On : 7 Mar 2019 9:58 pm
Operator : juntaep
Sample : ic6212-100
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 08 17:34:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145279.D
Acq On : 7 Mar 2019 10:24 pm
Operator : juntaep
Sample : ic6212-200
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 08 17:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	2.993	65	205530	500.00	ug/L	0.00
5) pentafluorobenzene	4.188	168	306498	50.00	ug/L	0.00
52) 1,4-difluorobenzene	4.755	114	430091	50.00	ug/L	0.00
74) chlorobenzene-d5	7.144	117	365870	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	9.339	152	166968	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	4.194	113	108652	49.32	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.64%			
53) 1,2-dichloroethane-d4 (s)	4.444	65	115204	48.78	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 97.56%			
75) toluene-d8 (s)	5.901	98	462716	50.01	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.02%			
99) 4-bromofluorobenzene (s)	8.223	95	159140	50.43	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.86%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	3.048	59	516956	1011.05	ug/L	98
3) ethanol	2.432	45	844743	18102.66	ug/L	97
4) 1,4-dioxane	5.187	88	236165	5005.35	ug/L	97
6) chlorodifluoromethane	1.609	51	562728	201.18	ug/L	97
7) dichlorodifluoromethane	1.597	85	630482	192.93	ug/L	99
8) chloromethane	1.749	50	581251	202.83	ug/L	98
9) vinyl chloride	1.828	62	609270	199.14	ug/L	100
10) 1,3-butadiene	1.859	54	467179	198.04	ug/L	99
11) bromomethane	2.054	94	180833	163.73	ug/L	99
12) chloroethane	2.139	64	333358	185.47	ug/L	98
13) trichlorofluoromethane	2.322	101	729668	192.57	ug/L	98
14) vinyl bromide	2.279	106	356556	201.94	ug/L	98
15) ethyl ether	2.511	74	276242	200.08	ug/L	95
16) acrolein	2.603	56	109344	199.15	ug/L	100
17) freon 113	2.682	151	399225	200.92	ug/L	99
18) 1,1-dichloroethene	2.682	96	431552	204.03	ug/L	100
19) acetone	2.694	58	243578	808.09	ug/L	91
20) acetonitrile	2.883	41	889008	1989.27	ug/L	99
21) iodomethane	2.798	142	342819	286.45	ug/L	99
22) carbon disulfide	2.852	76	1116796	208.96	ug/L	100
23) methylene chloride	3.005	84	431833	202.68	ug/L	99
24) methyl acetate	2.895	43	483350	202.79	ug/L	99
25) methyl tert butyl ether	3.176	73	1367984	202.41	ug/L	99
26) trans-1,2-dichloroethene	3.188	96	454773	203.05	ug/L	98
27) di-isopropyl ether	3.480	45	1521073	198.52	ug/L	98
28) 2-butanone	3.840	72	339927	798.63	ug/L #	81
29) 1,1-dichloroethane	3.480	63	768742	196.12	ug/L	98
30) chloroprene	3.535	53	746433	199.26	ug/L	98
31) acrylonitrile	3.151	53	239414	201.75	ug/L	97
32) hexane	3.371	56	375842	199.19	ug/L	98
33) vinyl acetate	3.456	86	140099	210.63	ug/L	98
34) ethyl tert-butyl ether	3.724	59	1472822	201.52	ug/L	99
35) ethyl acetate	3.846	45	100912	204.59	ug/L #	5
36) 2,2-dichloropropane	3.877	77	646641	198.50	ug/L	100
37) cis-1,2-dichloroethene	3.864	96	491946	203.84	ug/L	99
38) methyl acrylate	3.895	85	100344	202.14	ug/L #	84
39) propionitrile	3.883	54	1012575	2001.37	ug/L	97
40) bromochloromethane	4.029	128	209294	190.41	ug/L	93
41) tetrahydrofuran	4.041	72	89647	188.11	ug/L	99
42) chloroform	4.084	85	482410	202.02	ug/L	99
43) t-butyl formate	4.102	59	458341	208.03	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145279.D
Acq On : 7 Mar 2019 10:24 pm
Operator : juntaep
Sample : ic6212-200
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 08 17:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
45) methacrylonitrile	3.986	67	253940	201.67 ug/L	97
46) 1,1,1-trichloroethane	4.224	97	701740	204.12 ug/L	98
47) cyclohexane	4.285	84	719111	198.98 ug/L #	83
48) 1,1-dichloropropene	4.334	75	645191	204.61 ug/L	100
49) iso-butyl alcohol	4.346	43	412799	2137.05 ug/L	97
50) carbon tetrachloride	4.340	117	602896	208.21 ug/L	99
51) tert amyl alcohol	4.438	55	164674	969.57 ug/L #	79
54) n-butyl alcohol	4.822	56	1421509	10059.49 ug/L	98
55) 2,2,4-trimethylpentane	4.547	57	1198389	202.67 ug/L	97
56) benzene	4.480	78	1819767	201.46 ug/L	100
57) tert-amyl methyl ether	4.541	87	363061	203.89 ug/L	98
58) heptane	4.657	71	313792	201.68 ug/L	99
59) isopropyl acetate	4.450	87	155660	203.29 ug/L	93
60) 1,2-dichloroethane	4.498	62	583484	198.01 ug/L	100
61) trichloroethene	4.950	130	503141	204.28 ug/L	99
62) ethyl acrylate	4.962	55	783990	203.22 ug/L	99
63) 2-nitropropane	5.486	41	151112	224.20 ug/L	94
64) 2-chloroethyl vinyl ether	5.529	63	1722586	1026.32 ug/L	98
65) methyl methacrylate	5.145	69	580452	200.94 ug/L	96
66) 1,2-dichloropropane	5.139	63	449196	201.93 ug/L	100
67) dibromomethane	5.212	93	267896	202.34 ug/L	98
68) methylcyclohexane	5.139	83	763317	201.40 ug/L	99
69) bromodichloromethane	5.328	83	579087	207.53 ug/L	98
70) epichlorohydrin	5.578	57	376129	967.74 ug/L	96
71) cis-1,3-dichloropropene	5.669	75	741034	206.08 ug/L	98
72) 4-methyl-2-pentanone	5.767	58	1028046	797.93 ug/L	97
73) 3-methyl-1-butanol	5.797	55	844485	4042.86 ug/L	99
76) toluene	5.955	92	1173205	203.81 ug/L	99
77) trans-1,3-dichloropropene	6.120	75	684811	207.64 ug/L	99
78) ethyl methacrylate	6.144	69	728598	202.91 ug/L	99
79) 1,1,2-trichloroethane	6.291	83	338460	201.42 ug/L	98
80) tetrachloroethene	6.394	164	419082	202.55 ug/L	97
81) 1,3-dichloropropane	6.437	76	713948	203.29 ug/L	96
82) 2-hexanone	6.455	58	1068544	791.32 ug/L	99
83) butyl acetate	6.541	56	429233	199.20 ug/L	100
84) dibromochloromethane	6.626	129	451468	214.33 ug/L	100
85) 1,2-dibromoethane	6.742	107	536138	202.30 ug/L	98
86) n-butyl ether	7.224	57	1936254	203.10 ug/L	99
87) chlorobenzene	7.169	112	1249449	202.87 ug/L	98
88) 1,1,1,2-tetrachloroethane	7.242	131	441772	207.16 ug/L	100
89) ethylbenzene	7.248	91	2168162	200.50 ug/L	100
90) m,p-xylene	7.364	106	1689033	401.19 ug/L	99
91) o-xylene	7.717	106	808513	200.46 ug/L	98
92) styrene	7.736	104	1410039	201.57 ug/L	99
93) bromoform	7.912	173	348139	221.53 ug/L	98
94) butyl acrylate	7.638	55	1062193	202.07 ug/L	99
95) n-amyl acetate	7.845	70	436259	199.21 ug/L	97
96) isopropylbenzene	8.059	105	2081544	200.40 ug/L	100
97) cis-1,4-dichloro-2-butene	8.101	88	254914	208.25 ug/L	98
100) bromobenzene	8.370	156	535777	204.97 ug/L	99
101) 1,1,2,2-tetrachloroethane	8.339	83	606630	203.22 ug/L	98
102) trans-1,4-dichloro-2-b...	8.376	53	182235	208.75 ug/L	87
103) 1,2,3-trichloropropane	8.400	110	201472	206.00 ug/L	98
104) n-propylbenzene	8.449	91	2346779	206.33 ug/L	99
105) 2-chlorotoluene	8.546	126	492694	207.64 ug/L	98
106) 4-chlorotoluene	8.662	126	491526	207.03 ug/L	98
107) 1,3,5-trimethylbenzene	8.620	105	1645618	204.92 ug/L	99
108) tert-butylbenzene	8.931	134	366762	208.74 ug/L	90

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145279.D
Acq On : 7 Mar 2019 10:24 pm
Operator : juntaep
Sample : ic6212-200
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 08 17:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration

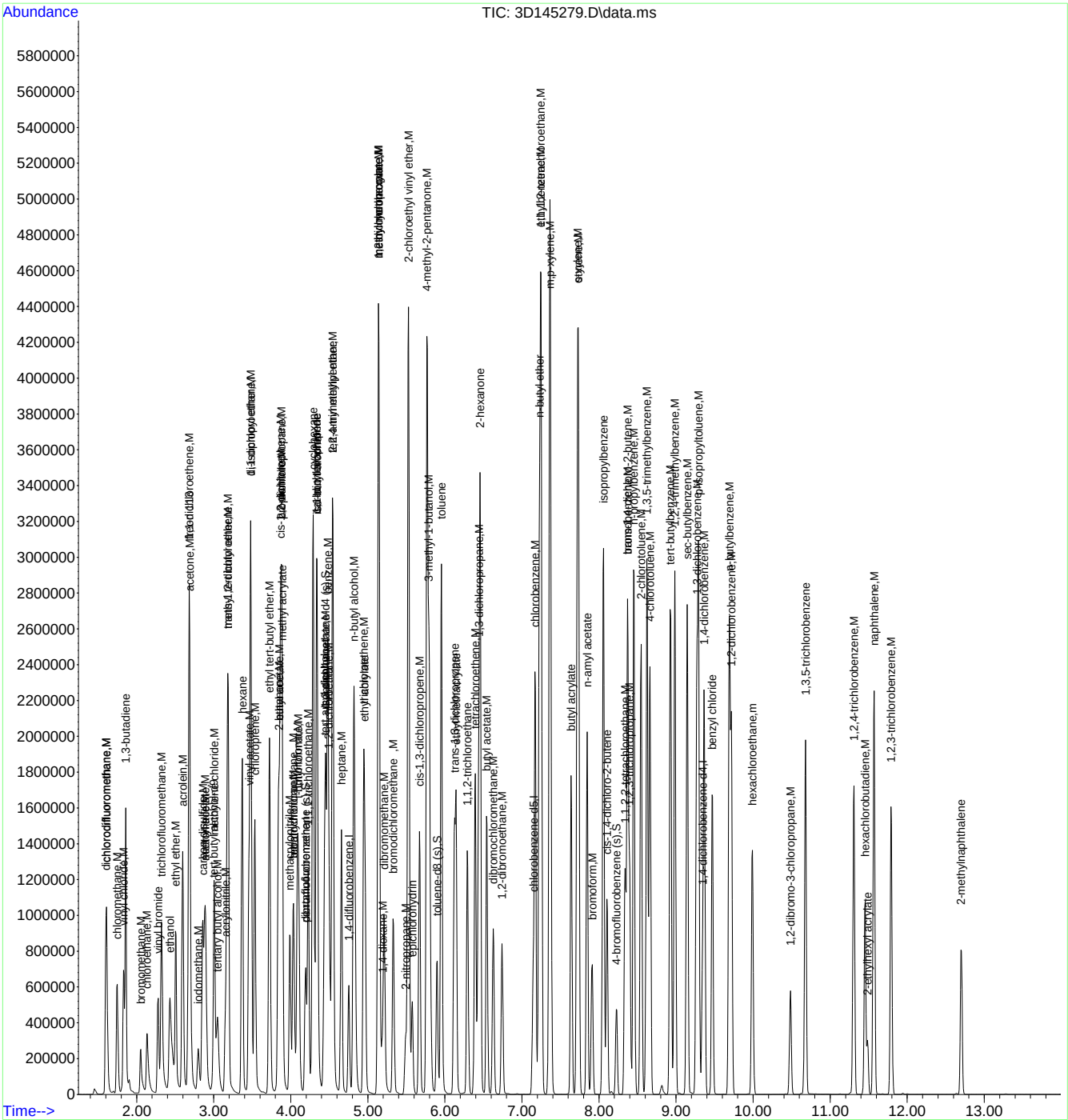
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	1640913	206.12 ug/L	99
110) sec-butylbenzene	9.144	105	1946371	204.27 ug/L	99
111) 1,3-dichlorobenzene	9.266	146	943791	206.14 ug/L	99
112) p-isopropyltoluene	9.290	119	1681171	205.05 ug/L	100
113) 1,4-dichlorobenzene	9.363	146	954511	205.17 ug/L	98
114) benzyl chloride	9.473	91	1244452	211.66 ug/L	97
115) 1,2-dichlorobenzene	9.717	146	896843	206.88 ug/L	99
116) n-butylbenzene	9.693	92	777153	208.21 ug/L	99
117) 1,2-dibromo-3-chloropr...	10.485	75	138939	218.45 ug/L	93
118) 1,3,5-trichlorobenzene	10.680	180	659880	209.28 ug/L	98
119) 2-ethylhexyl acrylate	11.485	70	73018	46.40 ug/L	98
120) 1,2,4-trichlorobenzene	11.308	180	599700	213.70 ug/L	99
121) hexachlorobutadiene	11.454	225	236942	215.09 ug/L	99
122) naphthalene	11.570	128	1862972	212.46 ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	551070	209.38 ug/L	99
124) hexachloroethane	9.991	201	280033	227.80 ug/L	96
125) 2-methylnaphthalene	12.704	142	426981	110.63 ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145279.D
Acq On : 7 Mar 2019 10:24 pm
Operator : juntaep
Sample : ic6212-200
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 08 17:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 16:34:21 2019
QLast Update : Fri Mar 08 16:34:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145282.D
Acq On : 7 Mar 2019 11:39 pm
Operator : juntaep
Sample : icv6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 08 18:11:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:10:41 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	2.986	65	216191	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	318149	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.754	114	444546	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	381060	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	179664	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.200	113	115969	51.30	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.60%				
53) 1,2-dichloroethane-d4 (s)	4.450	65	122994	49.27	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 98.54%				
75) toluene-d8 (s)	5.901	98	478622	49.45	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.90%				
99) 4-bromofluorobenzene (s)	8.223	95	169416	49.94	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.88%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.041	59	140650	251.33	ug/L		98
3) ethanol	2.419	45	260773	5024.98	ug/L		99
4) 1,4-dioxane	5.181	88	67673	1343.41	ug/L		95
6) chlorodifluoromethane	1.615	51	136591	47.20	ug/L		100
7) dichlorodifluoromethane	1.603	85	165339	51.57	ug/L		99
8) chloromethane	1.749	50	162976	54.65	ug/L		100
9) vinyl chloride	1.834	62	152272	50.39	ug/L		99
10) 1,3-butadiene	1.865	54	127513	51.02	ug/L		100
11) bromomethane	2.072	94	67624	59.82	ug/L		97
12) chloroethane	2.151	64	83635	44.74	ug/L		100
13) trichlorofluoromethane	2.334	101	184620	48.60	ug/L		98
14) vinyl bromide	2.291	106	90684	51.42	ug/L		99
15) ethyl ether	2.511	74	73355	52.14	ug/L		98
16) acrolein	2.608	56	33184	59.72	ug/L		98
17) freon 113	2.688	151	104611	50.26	ug/L		96
18) 1,1-dichloroethene	2.688	96	98563	46.70	ug/L		99
19) acetone	2.694	58	66718	210.31	ug/L		97
20) acetonitrile	2.883	41	238255	492.28	ug/L		99
21) iodomethane	2.804	142	50241	57.49	ug/L		98
22) carbon disulfide	2.858	76	289692	50.35	ug/L		99
23) methylene chloride	3.011	84	110987	46.86	ug/L		98
24) methyl acetate	2.901	43	127632	48.53	ug/L		99
25) methyl tert butyl ether	3.175	73	735944	104.25	ug/L		99
26) trans-1,2-dichloroethene	3.194	96	111161	46.85	ug/L		97
27) di-isopropyl ether	3.480	45	385518	48.52	ug/L		100
28) 2-butanone	3.840	72	92406	215.08	ug/L	#	85
29) 1,1-dichloroethane	3.486	63	197295	49.46	ug/L		99
30) chloroprene	3.535	53	194928	51.23	ug/L		100
31) acrylonitrile	3.151	53	69369	56.91	ug/L		99
32) hexane	3.377	56	80967	40.50	ug/L		98
33) vinyl acetate	3.456	86	33860	49.86	ug/L	#	93
34) ethyl tert-butyl ether	3.724	59	376536	49.87	ug/L		99
35) ethyl acetate	3.852	45	26816	50.22	ug/L	#	88
36) 2,2-dichloropropane	3.877	77	160371	46.63	ug/L		97
37) cis-1,2-dichloroethene	3.870	96	129478	50.72	ug/L		97
38) methyl acrylate	3.895	85	26772	53.42	ug/L	#	88
39) propionitrile	3.883	54	280204	530.26	ug/L		94
40) bromochloromethane	4.035	128	58406	51.43	ug/L		95
41) tetrahydrofuran	4.041	72	25024	52.39	ug/L		97
42) chloroform	4.090	85	124766	47.93	ug/L		99
43) t-butyl formate	4.108	59	104911	48.41	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145282.D
Acq On : 7 Mar 2019 11:39 pm
Operator : juntaep
Sample : icv6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 08 18:11:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:10:41 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
45) methacrylonitrile	3.992	67	67251	53.02 ug/L	99
46) 1,1,1-trichloroethane	4.230	97	172460	48.18 ug/L	99
47) cyclohexane	4.291	84	172644	45.45 ug/L	96
48) 1,1-dichloropropene	4.334	75	162774	49.29 ug/L	99
49) iso-butyl alcohol	4.334	43	111898	530.81 ug/L	99
50) carbon tetrachloride	4.346	117	147831	50.55 ug/L	99
51) tert amyl alcohol	4.425	55	48387	268.18 ug/L	93
54) n-butyl alcohol	4.809	56	387889	2707.53 ug/L	99
55) 2,2,4-trimethylpentane	4.547	57	289088	45.86 ug/L	99
56) benzene	4.480	78	471942	49.30 ug/L	99
57) tert-amyl methyl ether	4.541	87	90924	48.85 ug/L	99
58) heptane	4.657	71	83966	51.57 ug/L	97
59) isopropyl acetate	4.450	87	39452	49.95 ug/L	95
60) 1,2-dichloroethane	4.504	62	155966	48.46 ug/L	99
61) trichloroethene	4.949	130	128807	49.98 ug/L	99
62) ethyl acrylate	4.962	55	213809	54.40 ug/L	100
63) 2-nitropropane	5.486	41	38585	54.60 ug/L	94
64) 2-chloroethyl vinyl ether	5.529	63	471302	293.11 ug/L	98
65) methyl methacrylate	5.145	69	157271	50.31 ug/L	99
66) 1,2-dichloropropane	5.145	63	117341	50.65 ug/L	97
67) dibromomethane	5.212	93	72173	53.08 ug/L	98
68) methylcyclohexane	5.138	83	185641	45.81 ug/L	99
69) bromodichloromethane	5.334	83	147036	51.89 ug/L	99
70) epichlorohydrin	5.577	57	101588	265.15 ug/L	95
71) cis-1,3-dichloropropene	5.669	75	192518	51.74 ug/L	100
72) 4-methyl-2-pentanone	5.766	58	285335	215.84 ug/L	99
73) 3-methyl-1-butanol	5.791	55	236444	1162.83 ug/L	99
76) toluene	5.955	92	308442	49.92 ug/L	98
77) trans-1,3-dichloropropene	6.120	75	170593	49.37 ug/L	98
78) ethyl methacrylate	6.144	69	186607	51.56 ug/L	99
79) 1,1,2-trichloroethane	6.291	83	91061	52.06 ug/L	96
80) tetrachloroethene	6.394	164	108219	49.98 ug/L	98
81) 1,3-dichloropropane	6.437	76	193091	52.84 ug/L	99
82) 2-hexanone	6.455	58	294905	215.03 ug/L	99
83) butyl acetate	6.541	56	116397	53.73 ug/L	98
84) dibromochloromethane	6.626	129	118774	57.32 ug/L	96
85) 1,2-dibromoethane	6.742	107	143701	51.76 ug/L	99
86) n-butyl ether	7.223	57	515762	52.19 ug/L	99
87) chlorobenzene	7.175	112	324287	49.29 ug/L	99
88) 1,1,1,2-tetrachloroethane	7.242	131	117067	54.34 ug/L	100
89) ethylbenzene	7.248	91	571293	50.50 ug/L	99
90) m,p-xylene	7.364	106	445900	100.36 ug/L	99
91) o-xylene	7.717	106	213898	49.96 ug/L	100
92) styrene	7.736	104	377290	52.53 ug/L	99
93) bromoform	7.912	173	90669	59.01 ug/L	97
94) butyl acrylate	7.638	55	286831	56.31 ug/L	97
95) n-amyl acetate	7.845	70	110947	50.31 ug/L	98
96) isopropylbenzene	8.059	105	552777	51.16 ug/L	99
97) cis-1,4-dichloro-2-butene	8.101	88	63557	54.83 ug/L	96
100) bromobenzene	8.370	156	144349	50.65 ug/L	98
101) 1,1,2,2-tetrachloroethane	8.339	83	165585	53.13 ug/L	98
102) trans-1,4-dichloro-2-b...	8.376	53	55262	59.44 ug/L	94
103) 1,2,3-trichloropropane	8.394	110	54772	50.75 ug/L	99
104) n-propylbenzene	8.449	91	621455	50.63 ug/L	99
105) 2-chlorotoluene	8.546	126	129359	50.62 ug/L	98
106) 4-chlorotoluene	8.662	126	135529	52.97 ug/L	94
107) 1,3,5-trimethylbenzene	8.619	105	435278	50.27 ug/L	98
108) tert-butylbenzene	8.930	134	106491	55.18 ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145282.D
Acq On : 7 Mar 2019 11:39 pm
Operator : juntaep
Sample : icv6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 08 18:11:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:10:41 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

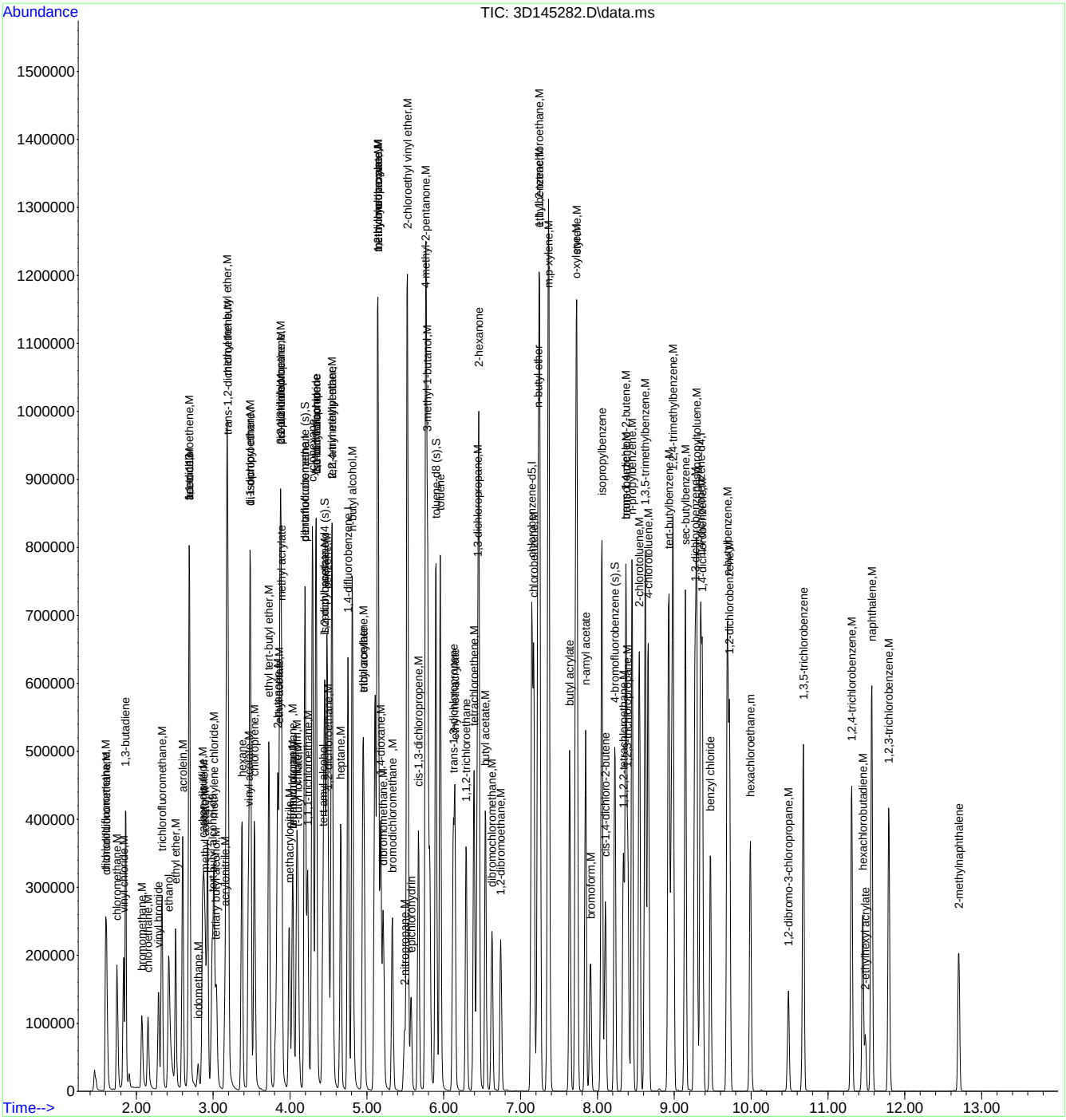
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) 1,2,4-trimethylbenzene	8.985	105	449053	52.58	ug/L	100
110) sec-butylbenzene	9.144	105	519736	51.39	ug/L	99
111) 1,3-dichlorobenzene	9.266	146	255104	50.65	ug/L	100
112) p-isopropyltoluene	9.290	119	448551	50.90	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	256596	50.20	ug/L	99
114) benzyl chloride	9.473	91	251546	42.20	ug/L	98
115) 1,2-dichlorobenzene	9.717	146	241787	50.25	ug/L	98
116) n-butylbenzene	9.692	92	203836	52.34	ug/L	99
117) 1,2-dibromo-3-chloropr...	10.485	75	34230	53.40	ug/L	92
118) 1,3,5-trichlorobenzene	10.680	180	173238	50.95	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	20495	12.47	ug/L	99
120) 1,2,4-trichlorobenzene	11.308	180	156214	53.06	ug/L	97
121) hexachlorobutadiene	11.454	225	59130	51.01	ug/L	99
122) naphthalene	11.570	128	494139	52.88	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	144773	53.68	ug/L	99
124) hexachloroethane	9.991	201	68922	55.59	ug/L	97
125) 2-methylnaphthalene	12.704	142	106568	27.76	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3D6212\
Data File : 3D145282.D
Acq On : 7 Mar 2019 11:39 pm
Operator : juntaep
Sample : icv6212-50
Misc : MS32815,V3D6212,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 08 18:11:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:10:41 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146918.d
Acq On : 23 Apr 2019 6:37 am
Operator : payalr
Sample : CC6212-20 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:08 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	2.980	65	203354	500.00	ug/L		0.00
5) pentafluorobenzene	4.194	168	303203	50.00	ug/L		0.00
52) 1,4-difluorobenzene	4.755	114	419030	50.00	ug/L		0.00
74) chlorobenzene-d5	7.144	117	364294	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	9.339	152	178767	50.00	ug/L		0.00
System Monitoring Compounds							
44) dibromofluoromethane (s)	4.194	113	107717	50.00	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.00%				
53) 1,2-dichloroethane-d4 (s)	4.444	65	110711	47.05	ug/L		0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 94.10%				
75) toluene-d8 (s)	5.895	98	466485	50.42	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.84%				
99) 4-bromofluorobenzene (s)	8.223	95	161169	47.75	ug/L		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 95.50%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	3.035	59	49630	94.28	ug/L		98
3) ethanol	2.420	45	107435	2200.91	ug/L		98
4) 1,4-dioxane	5.181	88	24163	509.95	ug/L		99
6) chlorodifluoromethane	1.615	51	53491	19.40	ug/L		98
7) dichlorodifluoromethane	1.603	85	59841	19.58	ug/L		99
8) chloromethane	1.749	50	50201	17.66	ug/L		98
9) vinyl chloride	1.834	62	56563	19.64	ug/L		99
10) 1,3-butadiene	1.859	54	48493	20.36	ug/L		97
11) bromomethane	2.078	94	13303	12.35	ug/L		97
12) chloroethane	2.151	64	34435	19.33	ug/L		97
13) trichlorofluoromethane	2.334	101	67248	18.58	ug/L		99
14) vinyl bromide	2.292	106	28895	17.19	ug/L		97
15) ethyl ether	2.511	74	31037	23.15	ug/L		95
16) acrolein	2.609	56	10252	19.36	ug/L		89
17) freon 113	2.688	151	35063	17.68	ug/L		95
18) 1,1-dichloroethene	2.688	96	42546	21.15	ug/L		97
19) acetone	2.694	58	26625	88.07	ug/L	#	85
20) acetonitrile	2.877	41	103093	223.51	ug/L		97
21) iodomethane	2.804	142	3789	4.55	ug/L		98
22) carbon disulfide	2.859	76	114369	20.86	ug/L		97
23) methylene chloride	3.011	84	46547	20.62	ug/L		94
24) methyl acetate	2.901	43	53613	21.39	ug/L		98
25) methyl tert butyl ether	3.176	73	145370	21.61	ug/L		100
26) trans-1,2-dichloroethene	3.194	96	46674	20.64	ug/L		95
27) di-isopropyl ether	3.480	45	172838	22.83	ug/L		98
28) 2-butanone	3.834	72	36328	88.72	ug/L		94
29) 1,1-dichloroethane	3.480	63	83713	22.02	ug/L		98
30) chloroprene	3.535	53	74280	20.49	ug/L		98
31) acrylonitrile	3.151	53	26592	22.89	ug/L		99
32) hexane	3.371	56	35474	18.62	ug/L		96
33) vinyl acetate	3.456	86	13795	21.32	ug/L		98
34) ethyl tert-butyl ether	3.724	59	155182	21.56	ug/L		99
35) ethyl acetate	3.846	45	10877	21.37	ug/L	#	28
36) 2,2-dichloropropane	3.877	77	66468	20.28	ug/L		96
37) cis-1,2-dichloroethene	3.871	96	51905	21.33	ug/L		98
38) methyl acrylate	3.889	85	9944	20.82	ug/L	#	61
39) propionitrile	3.877	54	113780	225.93	ug/L		82
40) bromochloromethane	4.035	128	24272	22.42	ug/L		98
41) tetrahydrofuran	4.041	72	9841	21.62	ug/L		86

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146918.d
Acq On : 23 Apr 2019 6:37 am
Operator : payalr
Sample : CC6212-20 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:08 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) chloroform	4.090	85	50142	20.21	ug/L	97
43) t-butyl formate	4.108	59	36538	17.69	ug/L	85
45) methacrylonitrile	3.986	67	27511	22.76	ug/L	97
46) 1,1,1-trichloroethane	4.230	97	65610	19.23	ug/L	97
47) cyclohexane	4.291	84	69545	19.21	ug/L	91
48) 1,1-dichloropropene	4.334	75	64925	20.63	ug/L	98
49) iso-butyl alcohol	4.334	43	40314	200.66	ug/L	98
50) carbon tetrachloride	4.346	117	55169	19.80	ug/L	99
51) tert amyl alcohol	4.425	55	18911	109.98	ug/L	91
54) n-butyl alcohol	4.809	56	144060	1066.79	ug/L	97
55) 2,2,4-trimethylpentane	4.547	57	121754	20.49	ug/L	97
56) benzene	4.480	78	195037	21.61	ug/L	99
57) tert-amyl methyl ether	4.541	87	35983	20.51	ug/L	91
58) heptane	4.657	71	30359	19.78	ug/L	95
59) isopropyl acetate	4.450	87	15401	20.69	ug/L	97
60) 1,2-dichloroethane	4.498	62	59156	19.50	ug/L	95
61) trichloroethene	4.950	130	49157	20.24	ug/L	97
62) ethyl acrylate	4.962	55	80637	21.76	ug/L	97
63) 2-nitropropane	5.486	41	13782	20.69	ug/L	96
64) 2-chloroethyl vinyl ether	5.523	63	156103	102.99	ug/L	98
65) methyl methacrylate	5.145	69	58076	19.71	ug/L	97
66) 1,2-dichloropropane	5.139	63	49950	22.87	ug/L	99
67) dibromomethane	5.212	93	27617	21.55	ug/L	93
68) methylcyclohexane	5.139	83	71901	18.82	ug/L	95
69) bromodichloromethane	5.328	83	57822	21.65	ug/L	99
70) epichlorohydrin	5.571	57	39073	108.19	ug/L	95
71) cis-1,3-dichloropropene	5.669	75	73982	21.09	ug/L	96
72) 4-methyl-2-pentanone	5.766	58	114155	91.61	ug/L	99
73) 3-methyl-1-butanol	5.785	55	80993	422.58	ug/L	96
76) toluene	5.955	92	120879	20.47	ug/L	99
77) trans-1,3-dichloropropene	6.120	75	66100	20.01	ug/L	100
78) ethyl methacrylate	6.144	69	74554	21.55	ug/L	99
79) 1,1,2-trichloroethane	6.291	83	36548	21.86	ug/L	92
80) tetrachloroethene	6.394	164	42514	20.54	ug/L	98
81) 1,3-dichloropropane	6.437	76	75562	21.63	ug/L	99
82) 2-hexanone	6.455	58	116179	88.61	ug/L	97
83) butyl acetate	6.541	56	45742	22.09	ug/L	96
84) dibromochloromethane	6.626	129	44997	22.72	ug/L	99
85) 1,2-dibromoethane	6.742	107	58713	22.12	ug/L	100
86) n-butyl ether	7.224	57	201723	21.35	ug/L	100
87) chlorobenzene	7.169	112	126354	20.09	ug/L	99
88) 1,1,1,2-tetrachloroethane	7.242	131	42402	20.59	ug/L	93
89) ethylbenzene	7.248	91	221173	20.45	ug/L	99
90) m,p-xylene	7.364	106	171060	40.27	ug/L	99
91) o-xylene	7.717	106	81679	19.96	ug/L	99
92) styrene	7.730	104	140633	20.48	ug/L	94
93) bromoform	7.906	173	32655	22.23	ug/L	98
94) butyl acrylate	7.638	55	106567	21.88	ug/L	97
95) n-amyl acetate	7.845	70	45491	21.58	ug/L	98
96) isopropylbenzene	8.053	105	207746	20.11	ug/L	98
97) cis-1,4-dichloro-2-butene	8.101	88	17475	15.77	ug/L	90
100) bromobenzene	8.370	156	54265	19.14	ug/L	96
101) 1,1,2,2-tetrachloroethane	8.333	83	64204	20.70	ug/L	99
102) trans-1,4-dichloro-2-b...	8.370	53	14781	15.98	ug/L	94
103) 1,2,3-trichloropropane	8.394	110	20803	19.37	ug/L	98
104) n-propylbenzene	8.449	91	232769	19.06	ug/L	99
105) 2-chlorotoluene	8.540	126	47966	18.86	ug/L	93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146918.d
Acq On : 23 Apr 2019 6:37 am
Operator : payalr
Sample : CC6212-20 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:08 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration

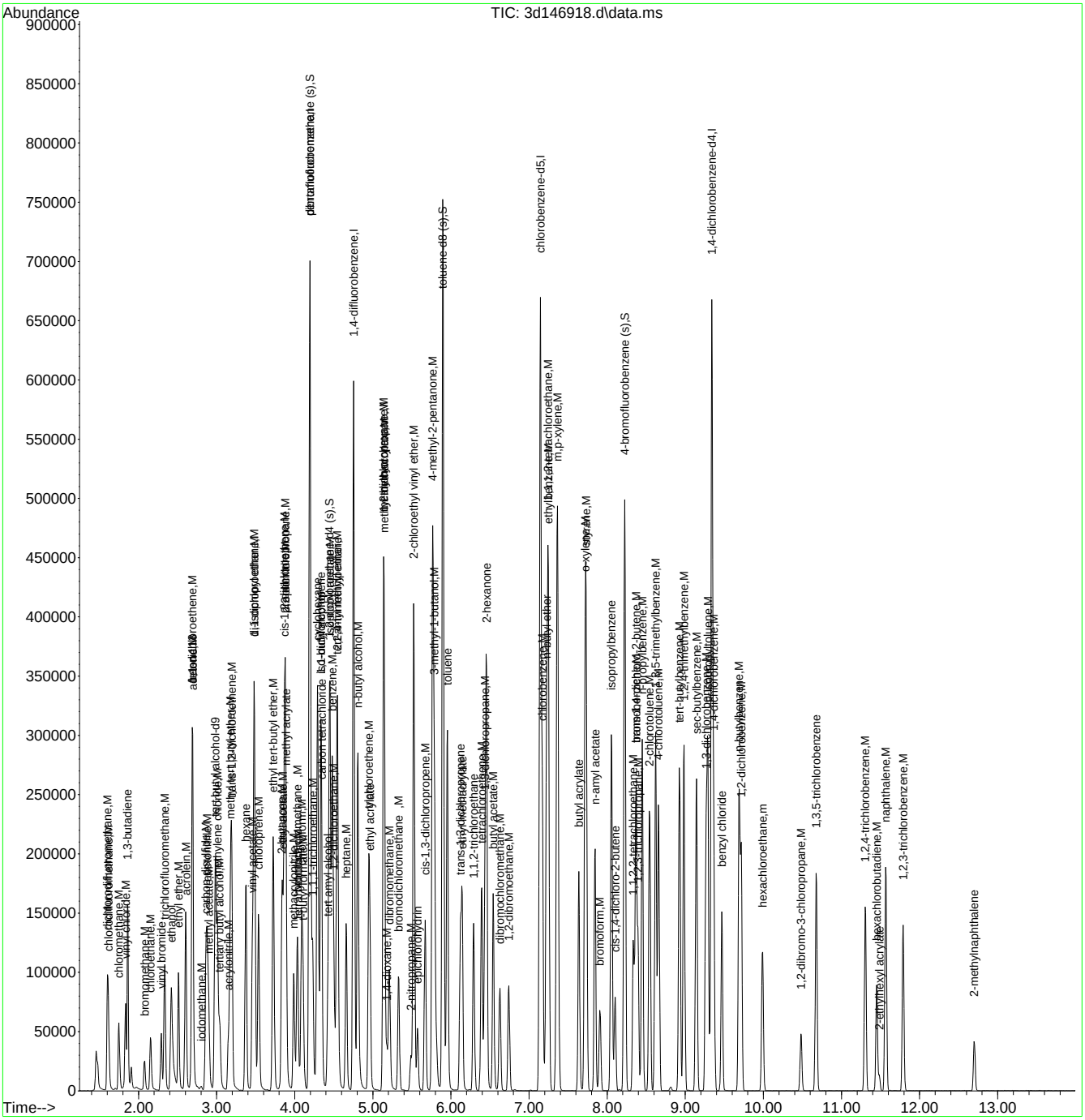
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 4-chlorotoluene	8.656	126	48457	19.03	ug/L	95
107) 1,3,5-trimethylbenzene	8.620	105	164048	19.04	ug/L	100
108) tert-butylbenzene	8.924	134	36030	18.76	ug/L	97
109) 1,2,4-trimethylbenzene	8.985	105	164315	19.33	ug/L	100
110) sec-butylbenzene	9.144	105	191474	19.03	ug/L	100
111) 1,3-dichlorobenzene	9.266	146	95494	19.05	ug/L	98
112) p-isopropyltoluene	9.290	119	164015	18.70	ug/L	99
113) 1,4-dichlorobenzene	9.363	146	97377	19.15	ug/L	99
114) benzyl chloride	9.467	91	108603	18.31	ug/L	99
115) 1,2-dichlorobenzene	9.717	146	91881	19.19	ug/L	100
116) n-butylbenzene	9.686	92	74278	19.17	ug/L	98
117) 1,2-dibromo-3-chloropr...	10.479	75	11659	18.28	ug/L	93
118) 1,3,5-trichlorobenzene	10.674	180	63253	18.70	ug/L	99
119) 2-ethylhexyl acrylate	11.485	70	3497	2.14	ug/L	95
120) 1,2,4-trichlorobenzene	11.302	180	54933	18.75	ug/L	96
121) hexachlorobutadiene	11.448	225	20516	17.79	ug/L	96
122) naphthalene	11.564	128	157014	16.89	ug/L	99
123) 1,2,3-trichlorobenzene	11.790	180	49380	18.40	ug/L	99
124) hexachloroethane	9.991	201	24367	19.75	ug/L	97
125) 2-methylnaphthalene	12.698	142	22806	5.97	ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v3d6281-rush\
Data File : 3d146918.d
Acq On : 23 Apr 2019 6:37 am
Operator : payalr
Sample : CC6212-20 Inst : MS3D
Misc : MS34076,V3D6281,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3D6212.M
Quant Results File: M3D6212.RES
Quant Time: Apr 23 08:34:08 2019
Quant Title : SW846 8260C/ EPA 624, Rxi-624 60 m x 0.25 mm x 1.4Fri Mar 08 17:11:15 2019
QLast Update : Fri Mar 08 17:11:15 2019
Response via : Initial Calibration



GCMS Volatile Run Log

Standard / Reagents	Lot #				Column	Rxi-624(30mx0.25mmx1.4um)
Standard	ABK: V018-2645-148.34	EC:V019-2645-09.5	Acrolein:V018-2645-128.63	Ext. PA: V018-2645-130.1	Method	V8260C
Standard Concentration	100-10,000ppm	100ppm	100ppm	1000ppm	Init Calib Date	3/7/2019
Standard	Ext. ABK: V019-2648-06.1	Ext. EC: V019-2648-03.6	Ext. Acrolein: V018-2645-142.3	Acetone 3rd: V019-2648-12.2		
Standard Concentration	100-10,000ppm	100ppm	100ppm	400ppm		
Internal Surrogate	V018-2645-126				Analysis Date	3/7/2019
Internal Surrogate Concentration	50/500ppm				Sequence loaded by	Brittany Klimek
					Data processed by	Bridget Kelly
					Batch ID	V3D6212
					Matrix	AQ
Initial Calibration Method	M3D6212				Approved By:	BRIDGETK
pH Paper Lot#					Approved Date:	3/11/2019 3:21:17 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
3d	145269	BFB		NA			5			1	ok	3/7/19; 5:57pm.
3d	145270	IC6212-0.2		NA		V8260 AQ Init. Cal.	5			2	ok	0.2uL ABK, EC, Acrolein/100mL DI H2O.
3d	145271	IC6212-0.5		NA		V8260 AQ Init. Cal.	5			3	ok	0.5uL ABK, EC, Acrolein/100mL DI H2O.
3d	145272	IC6212-1		NA		V8260 AQ Init. Cal.	5			4	ok	1uL ABK, EC, Acrolein/100mL DI H2O.
3d	145273	IC6212-2		NA		V8260 AQ Init. Cal.	5			5	ok	2uL ABK, EC, Acrolein/100mL DI H2O.
3d	145274	IC6212-4		NA		V8260 AQ Init. Cal.	5			6	ok	4uL ABK, EC, Acrolein/100mL DI H2O.
3d	145275	IC6212-8		NA		V8260 AQ Init. Cal.	5			7	ok	8uL ABK, EC, Acrolein/100mL DI H2O.
3d	145276	IC6212-20		NA		V8260 AQ Init. Cal.	5			8	ok	20uL ABK, EC, Acrolein/100mL DI H2O.
3d	145277	ICC6212-50		NA		V8260 AQ Init. Cal.	5			9	ok	50uL ABK, EC, Acrolein/100mL DI H2O.
3d	145278	IC6212-100		NA		V8260 AQ Init. Cal.	5			10	ok	100uL ABK, EC, Acrolein/100mL DI H2O.
3d	145279	IC6212-200		NA		V8260 AQ Init. Cal.	5			11	ok	200uL ABK, EC, Acrolein/100mL DI H2O.

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
3d	145280	IB		NA			5			12	ok	
3d	145281	IB		NA			5			13	ok	
3d	145282	ICV6212-50		NA		V8260 AQ Init. Cal.	5			14	ok	50uL Ext, ABK, EC, Acrolein/100mL DI H2O.
3d	145283	ICV6212-50		NA		V8260 AQ Init. Cal.	5			15	not needed	50uL Ext. PA, Acetone/100mL DI H2O.

GCMS Volatile Run Log

Standard / Reagents	Lot #				Column	Rxi-624(30mx0.25mmx1.4um)
Standard	ABK: V019-2648-72.14	EC: V019-2648-74.9	Acrolein: V019-2648-54.53		Method	V8260C
Standard Concentration	100-10,000ppm	100ppm	100ppm		Init Calib Date	3/8/2019
Internal Surrogate	V019-2648-64					
Internal Surrogate Concentration	50/500ppm					
					Analysis Date	4/23/2019
					Sequence loaded by	Jessica Potts
					Data processed by	kenrickb/nizele
					Batch ID	V3D6281
Rough Review Completed	Jessica Potts 4/24/19				Matrix	AQ
Initial Calibration Method	M3D6212				Approved By:	MEI
pH Paper Lot#	217518				Approved Date:	4/24/2019 8:28:55 AM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
3D	146917	IB		NA			5			1	ok	
3D	146918	BFB/CC6212-20		NA			5			2	ok/ok	20uL ABK, EC, Acrolein/100mL (6:37 am) # 11 low
3D	146919	CC6212-2		NA			5			3	ok	2uL ABK, EC, Acrolein/100mL For # 11
3D	146920	BS		NA			5			4	ok	50uL ABK, EC, Acrolein/100mL
3D	146921	BSD		NA			5			5	ok	50uL ABK, EC, Acrolein/100mL
3D	146922	IB		NA			5			6	ok	
3D	146923	MB		NA			5			7	ok	
3D	146924	JC86512-2	1	NA	MS34076	V8260MCP	5		1	8	ok	RL reporting (no J values)
3D	146925	JC86512-3	1	NA	MS34076	V8260MCP	5		1	9	ok	RL reporting (no J values)
3D	146926	JC86512-4	1	NA	MS34076	V8260MCP	5		1	10	ok	RL reporting (no J values)
3D	146927	JC86512-5	2	NA	MS34076	V8260MCP	5		1	11	ok	RL reporting (no J values)

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
3D	146928	JC86512-6	2	NA	MS34076	V8260MCP	5		1	12	ok	RL reporting (no J values)
3D	146929	JC86512-7	1	NA	MS34076	V8260MCP	5		1	13	ok	RL reporting (no J values)
3D	146930	JC86512-9	1	NA	MS34076	V8260MCP	5		1	14	ok	RL reporting (no J values)
3D	146931	JC86512-10	12	NA	MS34076	V8260MCP	5		1	15	ok	RL reporting (no J values)
3D	146932	JC86512-12	1	NA	MS34076	V8260MCP	5		1	16	ok	RL reporting (no J values)
3D	146933	JC86512-1	2	NA	MS34076	V8260MCP	5		1	17	ok	RL reporting (no J values)
3D	146934	JC86512-11	2	NA	MS34076	V8260MCP	5		1	18	ok/dL	RL reporting (no J values)
3D	146935	JC86512-8	21	NA	MS34076	V8260MCP	5		1	19	ok/dL	RL reporting (no J values)
3D	146936	JC86512-8	21	10X	MS34076	V8260MCP	5/50		1	20	ok	RL reporting (no J values) +3D146935
3D	146937	JC86512-8MS	18	NA	MS34076	V8260MCP	5		1	21	ok	50uL ABK, EC, Acrolein/100mL
3D	146938	JC86512-8MSD	17	NA	MS34076	V8260MCP	5		1	22	ok	50uL ABK, EC, Acrolein/100mL
3D	146939	JC86512-11	2	10X	MS34076	V8260MCP	5/50		1	23	ok	RL reporting (no J values) +3D146934
3D	146940	JC85400-4	3	NA	MS34165	V8260TCL20+	5		1	24	ok	
3D	146941	JC80444B-27D		NA	MS33763	V8260SL	5			25	ok	2ppb 2uL ABK, EC, Acrolein/100mL LOD/LOQ Q 2
3D	146942	JC86495-28	2	NA	MS34194	V8260MCP	5		1	26	ok	
3D	146943	JC86495-25	1	NA	MS34194	V8260MCP	5		1	27	ok	
3D	146944	JC86495-26	1	NA	MS34194	V8260MCP	5		1	28	ok	
3D	146945	JC86495-27	2	NA	MS34194	V8260MCP	5		1	29	ok	6:13 pm

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA1691-MB	AA72103.D	1	04/20/19	GP	n/a	n/a	GAA1691

The QC reported here applies to the following samples: **Method:** RSK-175

JC86512-8, JC86512-10

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	ND	0.11	ug/l	
74-84-0	Ethane	ND	0.23	ug/l	
74-85-1	Ethene	ND	0.31	ug/l	

Laboratory Control Sample Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA1691-LCS	AA72099.D	1	04/20/19	GP	n/a	n/a	GAA1691

The QC reported here applies to the following samples: **Method:** RSK-175

JC86512-8, JC86512-10

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
74-82-8	Methane	11	11.2	102	59-134
74-84-0	Ethane	23	23.9	104	63-135
74-85-1	Ethene	31	31.7	102	62-133

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86512-8DUP	AA72107.D	1	04/20/19	GP	n/a	n/a	GAA1691
JC86512-8	AA72106.D	1	04/20/19	GP	n/a	n/a	GAA1691

The QC reported here applies to the following samples: **Method:** RSK-175

JC86512-8, JC86512-10

CAS No.	Compound	JC86512-8 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	0.21		0.18		15	20
74-84-0	Ethane	ND		ND		nc	20
74-85-1	Ethene	ND		ND		nc	20

* = Outside of Control Limits.

Initial Calibration Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: GAA611-ICC611
Lab FileID: AA44604.D

Response Factor Report GCAA

Method : C:\MSDCHEM\1\METHODS\MAA611.M (ChemStation Integrator)
Title : METHOD V8015 DG by GC-FID
Last Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration

Calibration Files
200 =AA44605.D 100 =AA44604.D 20 =AA44603.D 10 =AA44602.D
2 =AA44601.D 1 =AA44608.D 500 =AA44606.D 1000=AA44607.D
2000=AA38039.D = = =

Compound	200	100	20	10	2	1	500	1000	2000	Avg	%RSD
1) Methane	3.495	2.972	2.227	3.034	2.500	1.220	2.833	2.689		2.621 E4	25.95
2) Ethane	6.678	5.691	4.213	4.974	4.212	2.201	5.484	5.197		4.831 E4	27.56
3) Ethene	6.666	5.675	4.188	4.964	4.177	2.494	5.473	5.191		4.853 E4	25.76
4) Propane	9.771	8.352	6.261	7.405	6.062	2.808	8.032	7.596		7.036 E4	29.46
5) Propylene										0.000	-1.00
6) Isobutane										0.000	-1.00
7) n-Butane	1.333	1.138	0.891	1.078	0.825	0.361	1.098	1.037		0.970 E5	29.93
8) Acetylene										0.000	-1.00
9) n-Pentane	1.628	1.355	1.158	1.454	1.011	0.481	1.331	1.258		1.210 E5	28.73
10) Hexane	1.898	1.462	1.503	1.959	1.335	0.900	1.542	1.454		1.506 E5	21.88

(#) = Out of Range ### Number of calibration levels exceeded format ###

MAA611.M Wed Feb 04 14:15:12 2015 S

Initial Calibration Verification

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: GAA611-ICV611
Lab FileID: AA44609.D

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\
Data File : AA44609.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:59 pm
Operator : THOMASH
Sample : ICV611-100
Misc : GC45339,GAA611,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 14:15:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	Methane	26.211	28.583 E3	-9.0	96	0.00
2	Ethane	48.315	54.762 E3	-13.3	96	0.00
3	Ethene	48.534	54.783 E3	-12.9	97	0.00
4	Propane	70.357	80.260 E3	-14.1	96	0.00
7	n-Butane	97.009	107.063 E3	-10.4	94	0.00
9	n-Pentane	120.954	120.719 E3	0.2	89	-0.02
10	Hexane	150.637	131.911 E3	12.4	90	-0.03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

MAA611.M Wed Feb 04 14:16:18 2015 S

Continuing Calibration Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: GAA1691-CC611
Lab FileID: AA72097.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\AA72097.d Vial: 1
Acq On : 20 Apr 2019 6:26 am Operator: gabriep
Sample : cc611-100 Inst : GCAA
Misc : GC54212,GAA1691,,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\msdchem\1\methods\maa611.m (ChemStation Integrator)
Title : METHOD V8015 DG by GC-FID
Last Update : Wed Aug 17 09:21:43 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methane	26.211	24.651 E3	6.0	83	0.02	0.85- 1.85
2	Ethane	48.315	45.986 E3	4.8	81	0.01	1.28- 2.28
3	Ethene	48.534	46.072 E3	5.1	81	0.00	1.98- 2.98
4	Propane	70.357	67.580 E3	3.9	81	-0.02	2.42- 3.42
5	n-Butane	97.009	80.454 E3	17.1#	71	-0.03	3.65- 4.65
6	n-Pentane	120.954	90.359 E3	25.3#	67	-0.03	4.71- 5.71
7	Hexane	150.637	94.050 E3	37.6#	64	-0.06	5.91- 6.91

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA44604.D maa611.m Sat Apr 20 13:45:59 2019 GCAA

8.4.3

Continuing Calibration Summary

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Sample: GAA1691-CC611
Lab FileID: AA72112.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\AA72112.d Vial: 16
Acq On : 20 Apr 2019 10:54 am Operator: gabriep
Sample : cc611-100 Inst : GCAA
Misc : GC54207,GAA1691,,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\msdchem\1\methods\maa611.m (ChemStation Integrator)
Title : METHOD V8015 DG by GC-FID
Last Update : Wed Aug 17 09:21:43 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methane	26.211	22.702 E3	13.4	76	0.02	0.85- 1.85
2	Ethane	48.315	42.624 E3	11.8	75	0.01	1.28- 2.28
3	Ethene	48.534	42.646 E3	12.1	75	0.00	1.98- 2.98
4	Propane	70.357	63.192 E3	10.2	76	-0.02	2.42- 3.42
5	n-Butane	97.009	76.275 E3	21.4#	67	-0.04	3.64- 4.64
6	n-Pentane	120.954	85.225 E3	29.5#	63	-0.05	4.69- 5.69
7	Hexane	150.637	85.898 E3	43.0#	59	-0.09	5.88- 6.88

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA44604.D maa611.m Sat Apr 20 13:46:01 2019 GCAA

GC Volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/23/19 11:50

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72106.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:30 am
Operator : gabriep
Sample : JC86512-8
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 09:57:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc Units
Target Compounds				
1)	Methane	1.334	67063	2.559 PPMV m

(f)=RT Delta > 1/2 Window (m)=manual int.

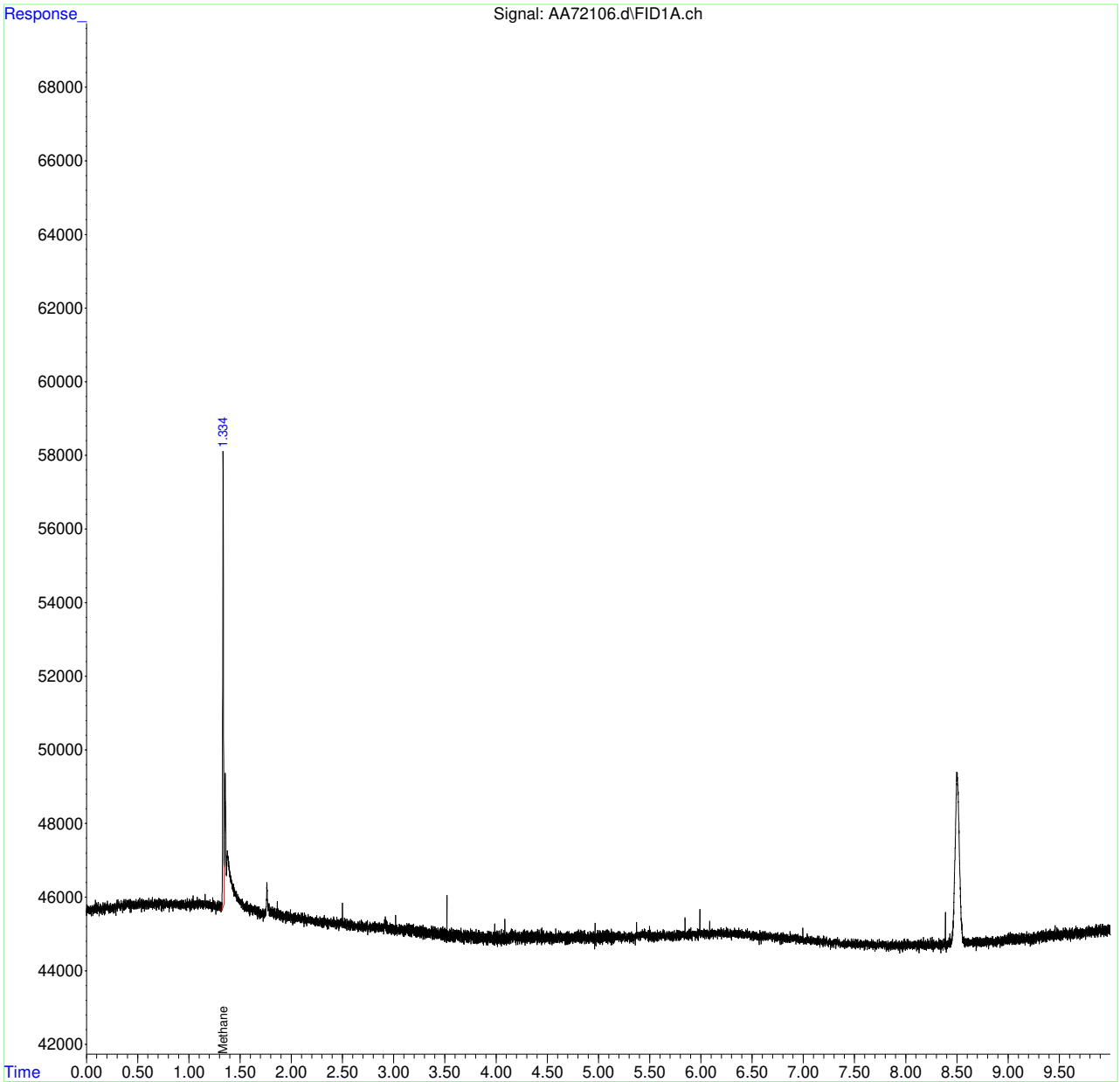
9.1.1
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72106.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:30 am
Operator : gabriep
Sample : JC86512-8
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 09:57:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: JC86512-8
Lab FileID: AA72106.D
Injection Time: 04/20/19 09:30
Method: RSK-175
Analyst approved: 04/20/19 13:50 Gabriella Pericone
Supervisor approved: 04/23/19 11:50 Kanya Veerawat

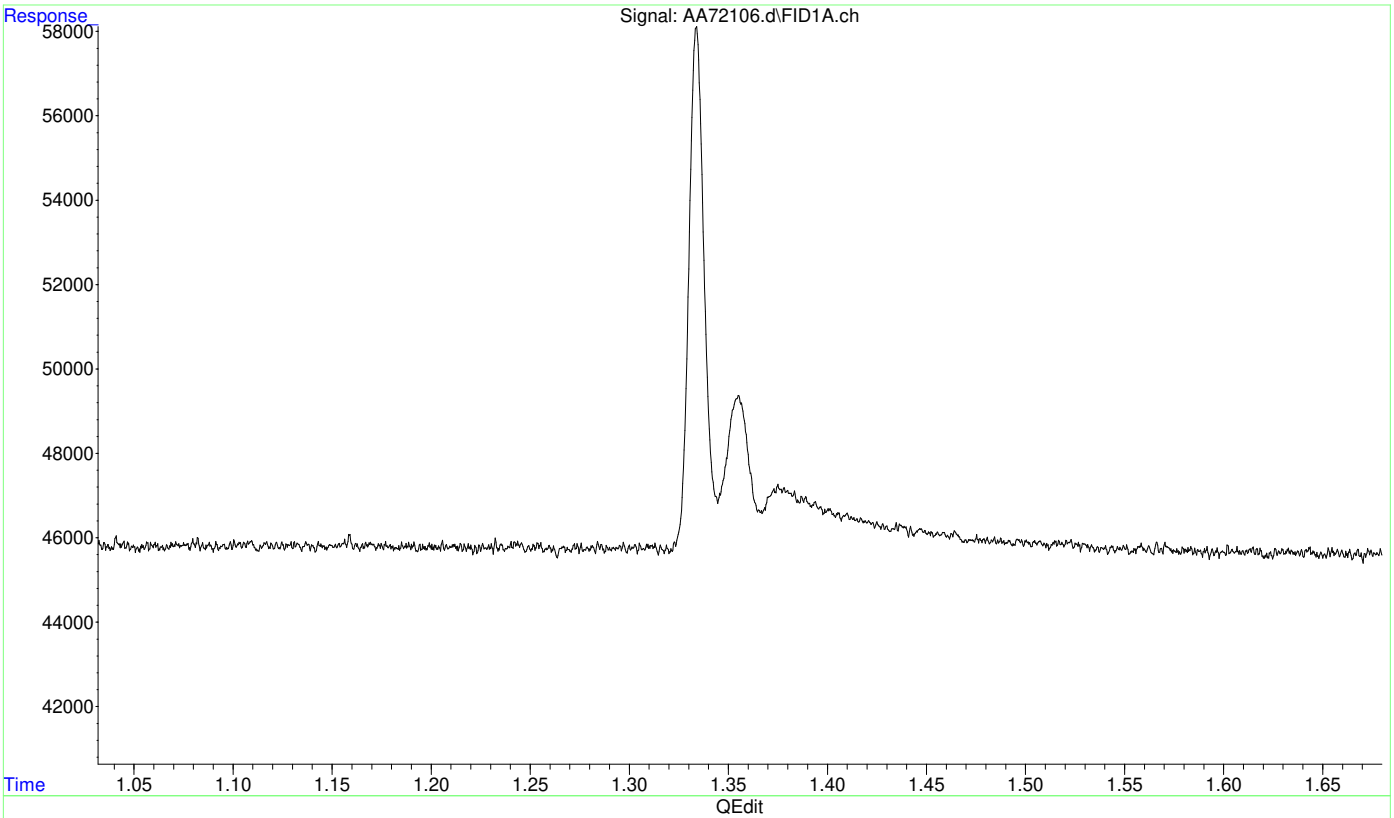
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.33	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72106.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:30 am
Operator : gabriep
Sample : JC86512-8
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 09:40:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.327min 0.000 PPMV

response 0

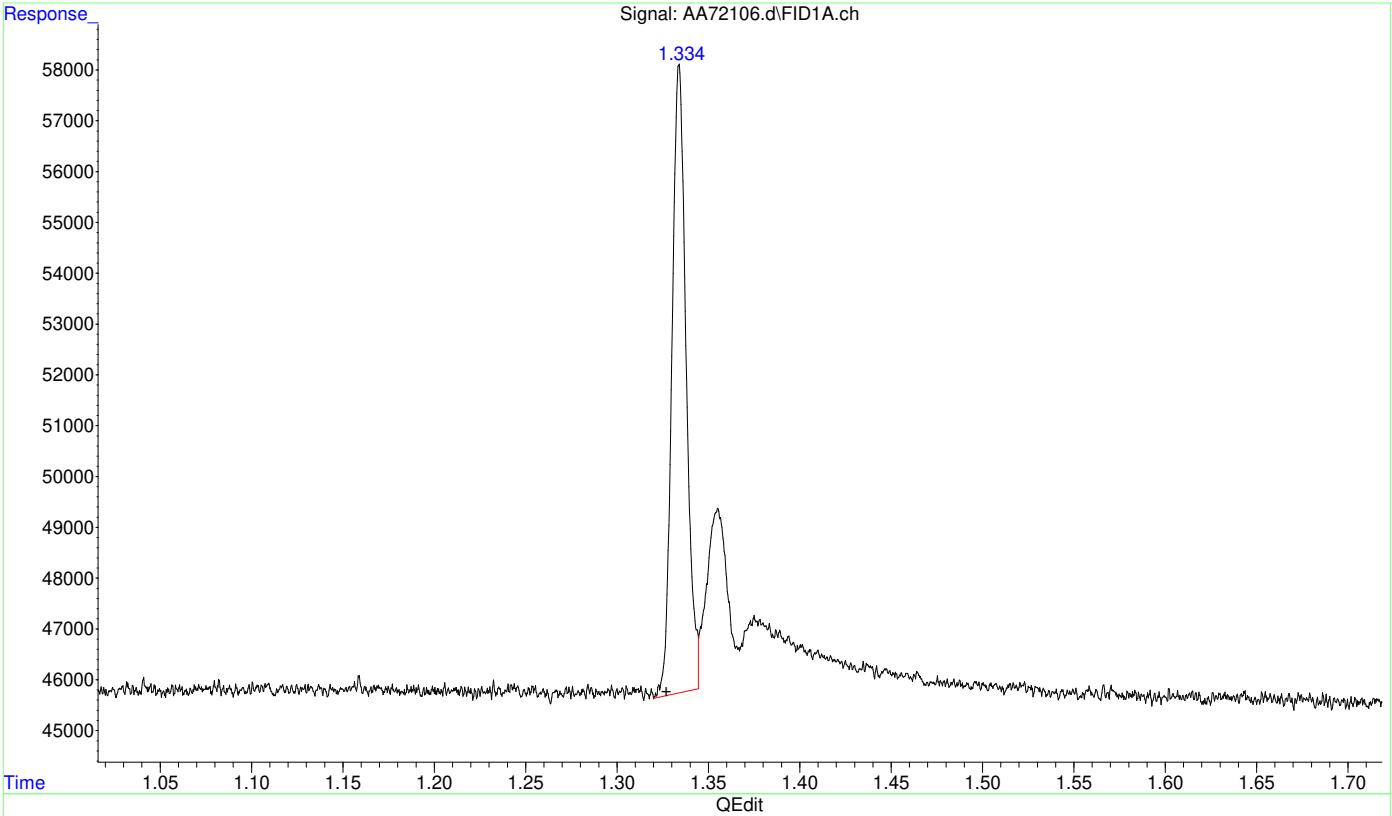
(+) = Expected Retention Time
maa611.m Sat Apr 20 09:42:30 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72106.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:30 am
Operator : gabriep
Sample : JC86512-8
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 09:57:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.334min 2.559 PPMV m

response 67063

(+) = Expected Retention Time
maa611.m Tue Apr 23 07:59:22 2019 GCAA

Dissolved Gas Calculation Worksheet

C:\msdchem\1\data\AA72106.d

Data File Name **AA72106.d**
Date Acquired **4/20/2019 9:30**
Sample Name **JC86512-8**
Sample Multiplier **1**
Temperature(C) **22**
Headspace Vol. (cc) **5**
Sample Vol(cc) **39**

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Peak Area	Helium Blank	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	RL (ug/l)	Report (ug/l)
METHANE	16	22.4	55.5	295	24.21	67063.266	14777	1.99	1.32	0.17	39080	0.045	0.21	0.10	**0.21**
ETHANE	30	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	27860	#DIV/0!	#DIV/0!	0.23	**#DIV/0!**
ETHYLENE	28	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10680	#DIV/0!	#DIV/0!	0.31	**#DIV/0!**
Propane	44	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	33643	#DIV/0!	#DIV/0!	0.33	**#DIV/0!**
n-Butane	58	22.4	55.5	295	24.21	0	0	0.00	0.00	0.00	40945	0.000	0.000	0.41	**ND**

*** ppmv is corrected for helium blank background peak area**

Definitions,

Molar Volume	**The volume of 1 mole of any gas at standard temperature and pressure(STP)**
Water g/Moles	**1 Liter of water is equal to 55.5g-moles**
Temp-kelvin	**Is defined as 273 + degress C**
Corrected Gas Density	**Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)**
Headspace conc(ug/l)	**Is equal to (ppmv reading) x (mw/corrected gas density)**
Water Concentration(ug/l)	**Is equal to headspace conc(ug/l) x headspace vol/sample vol**
Saturation Concentration(ug/l)	**Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)**

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900
Propane	31474	32552	33643	34744	35857	36978	38107	39244	40387	41535	42688
n-Butane	38111	39507	40945	42425	43947	45514	47125	48782	50486	52238	52339

C:\msdchem\custrpt\NATATT.CRT

4/20/2019 1:43 PM

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/22/19 17:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72108.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:59 am
Operator : gabriep
Sample : JC86512-10
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:10:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

Compound	R.T.	Response	Conc Units
Target Compounds			
1) Methane	1.335	48571	1.853 PPMV m

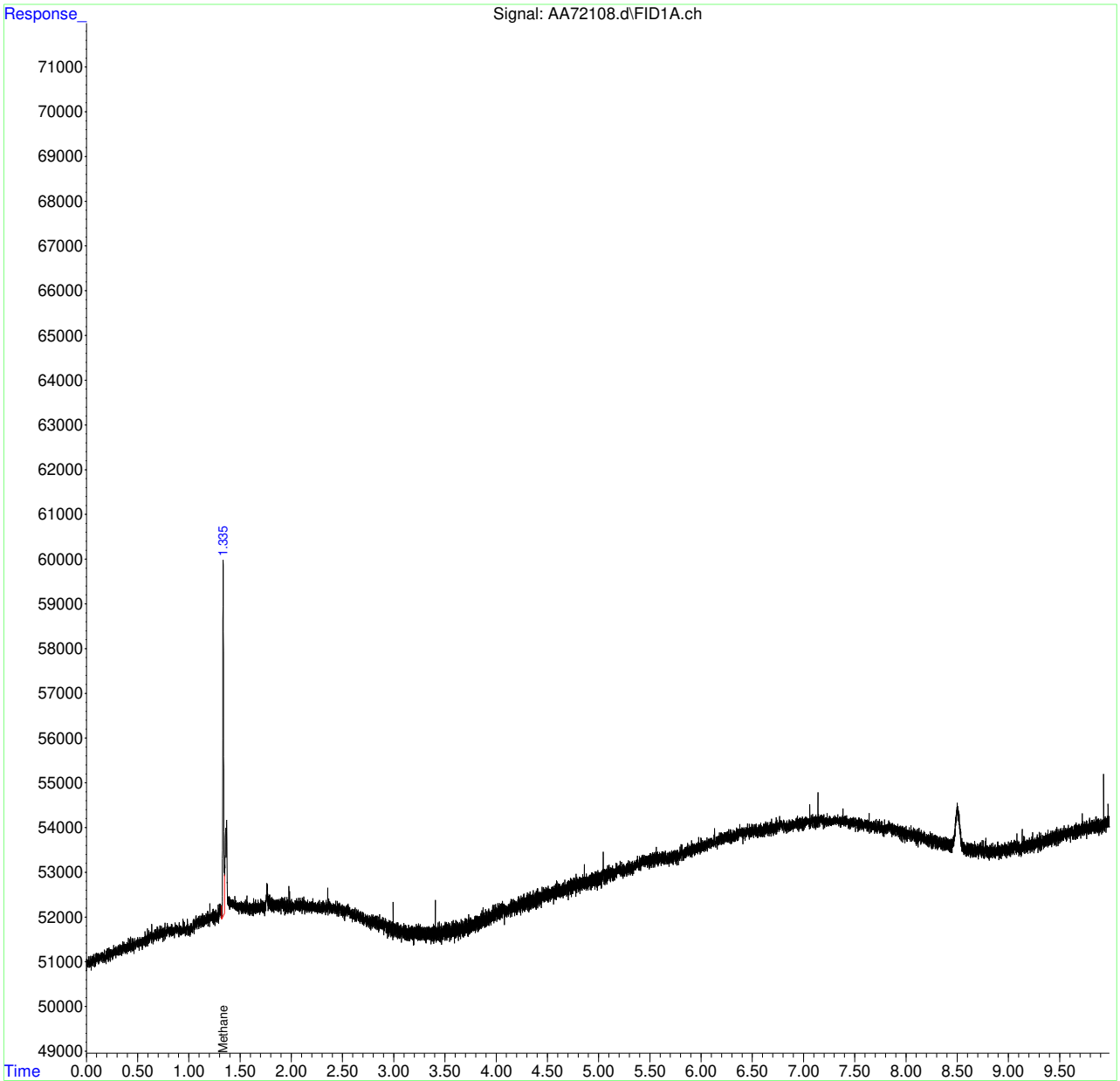
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72108.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:59 am
Operator : gabriep
Sample : JC86512-10
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:10:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: JC86512-10
Lab FileID: AA72108.D
Injection Time: 04/20/19 09:59

Method: RSK-175
Analyst approved: 04/20/19 13:50 Gabriella Pericone
Supervisor approved: 04/22/19 17:14 Kanya Veerawat

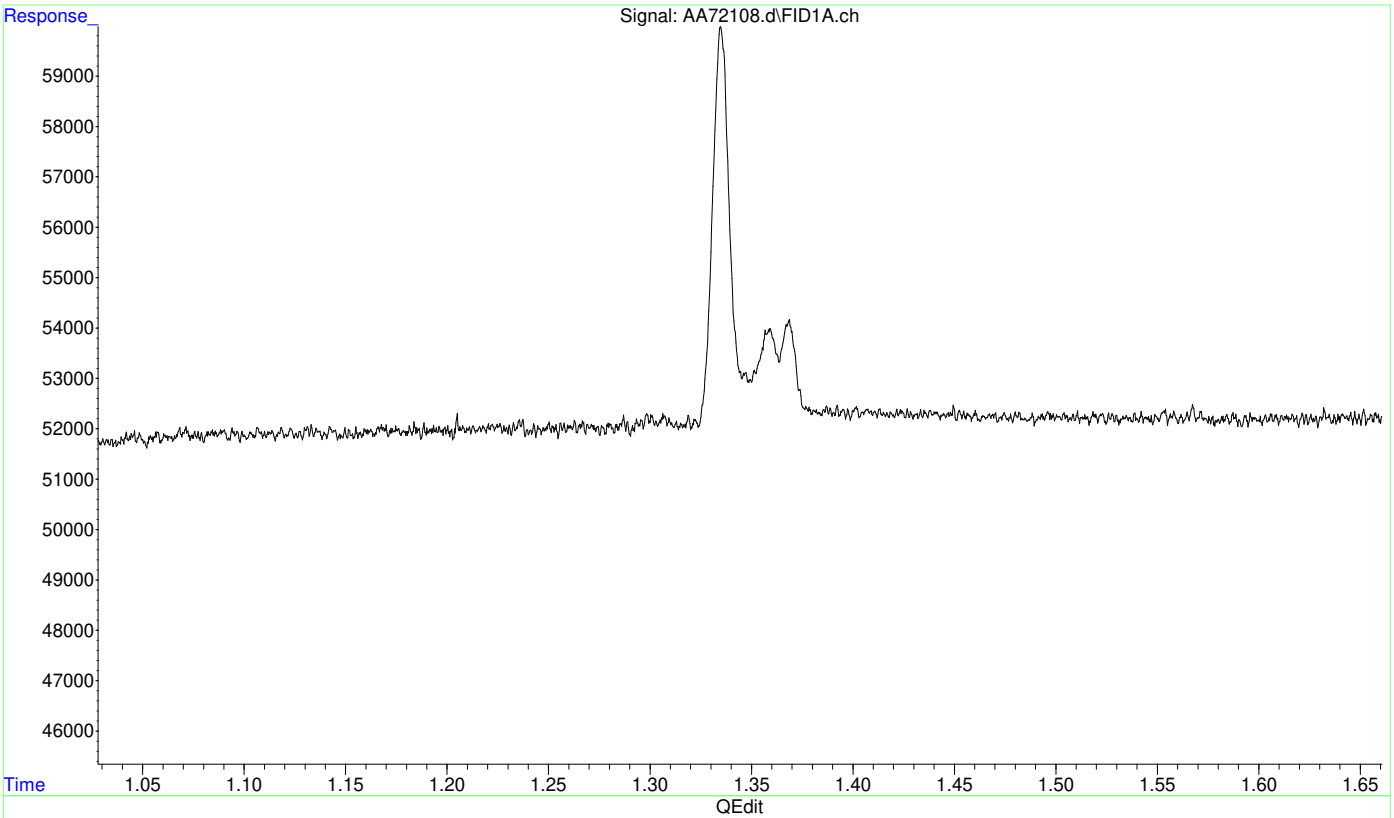
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.33	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72108.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:59 am
Operator : gabriep
Sample : JC86512-10
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:10:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.327min 0.000 PPMV

response 0

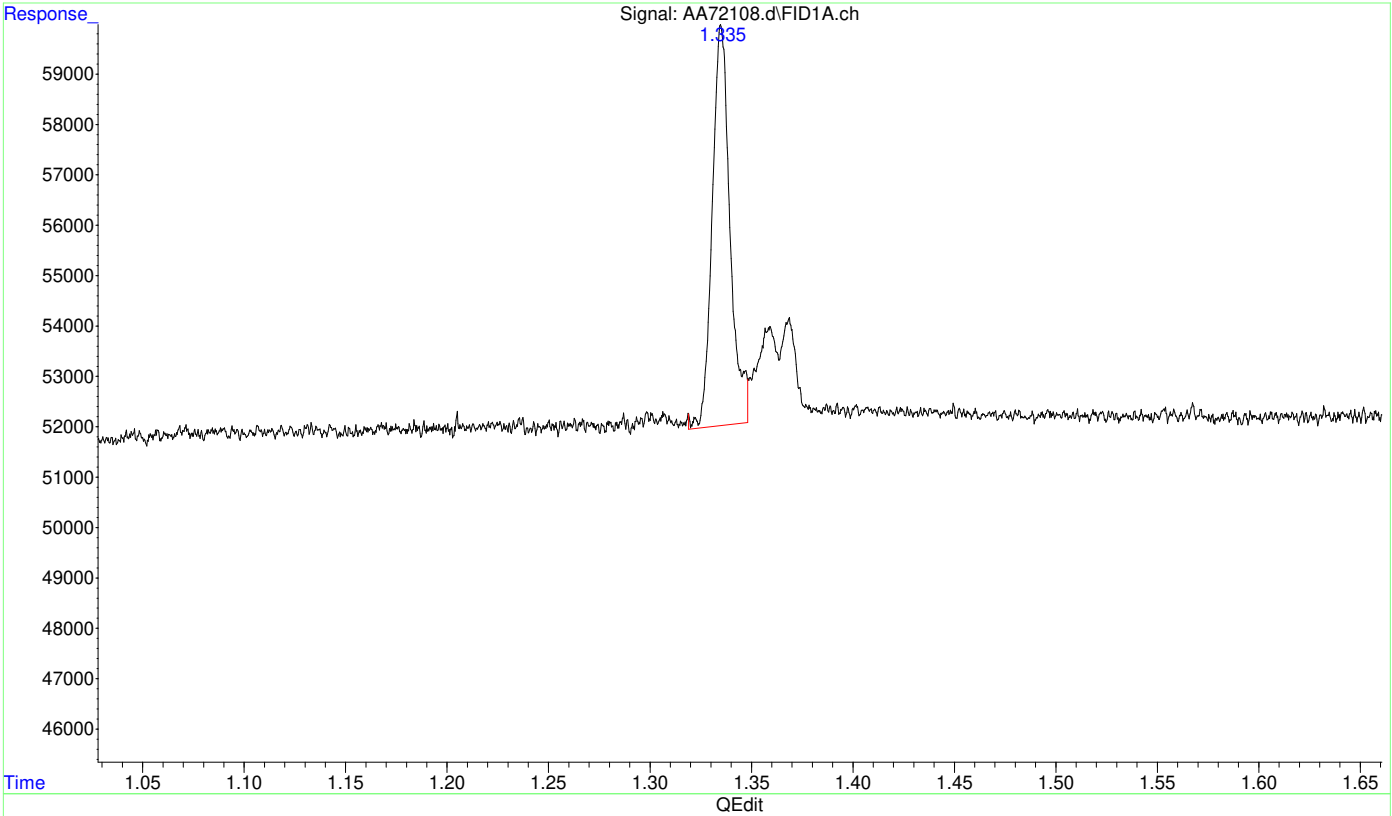
(+) = Expected Retention Time
maa611.m Sat Apr 20 10:10:32 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72108.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:59 am
Operator : gabriep
Sample : JC86512-10
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:10:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.335min 1.853 PPMV m

response 48571

(+) = Expected Retention Time
maa611.m Sat Apr 20 10:10:51 2019 GCAA

Dissolved Gas Calculation Worksheet

C:\msdchem\1\data\AA72108.d

Data File Name **AA72108.d**
Date Acquired **4/20/2019 9:59**
Sample Name **JC86512-10**
Sample Multiplier **1**
Temperature(C) **22**
Headspace Vol. (cc) **5**
Sample Vol(cc) **38**

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Peak Area	Helium Blank	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	RL (ug/l)	Report (ug/l)
METHANE	16	22.4	55.5	295	24.21	48570.706	14777	1.29	0.85	0.11	39080	0.029	0.14	0.10	**0.14**
ETHANE	30	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	27860	#DIV/0!	#DIV/0!	0.23	**#DIV/0!**
ETHYLENE	28	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10680	#DIV/0!	#DIV/0!	0.31	**#DIV/0!**
Propane	44	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	33643	#DIV/0!	#DIV/0!	0.33	**#DIV/0!**
n-Butane	58	22.4	55.5	295	24.21	0	0	0.00	0.00	0.00	40945	0.000	0.000	0.41	**ND**

*** ppmv is corrected for helium blank background peak area**

Definitions,

Molar Volume	**The volume of 1 mole of any gas at standard temperature and pressure(STP)**
Water g/Moles	**1 Liter of water is equal to 55.5g-moles**
Temp-kelvin	**Is defined as 273 + degress C**
Corrected Gas Density	**Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)**
Headspace conc(ug/l)	**Is equal to (ppmv reading) x (mw/corrected gas density)**
Water Concentration(ug/l)	**Is equal to headspace conc(ug/l) x headspace vol/sample vol**
Saturation Concentration(ug/l)	**Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)**

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900
Propane	31474	32552	33643	34744	35857	36978	38107	39244	40387	41535	42688
n-Butane	38111	39507	40945	42425	43947	45514	47125	48782	50486	52238	52339

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/22/19 17:04

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72103.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 8:20 am
Operator : gabriep
Sample : MB
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 08:32:30 2019
Quant Method : C:\msdchem\1\methods\maa611.m
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Aug 17 09:21:43 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc Units
Target Compounds				
1)	Methane	1.345	37171	1.418 PPMV m

(f)=RT Delta > 1/2 Window (m)=manual int.

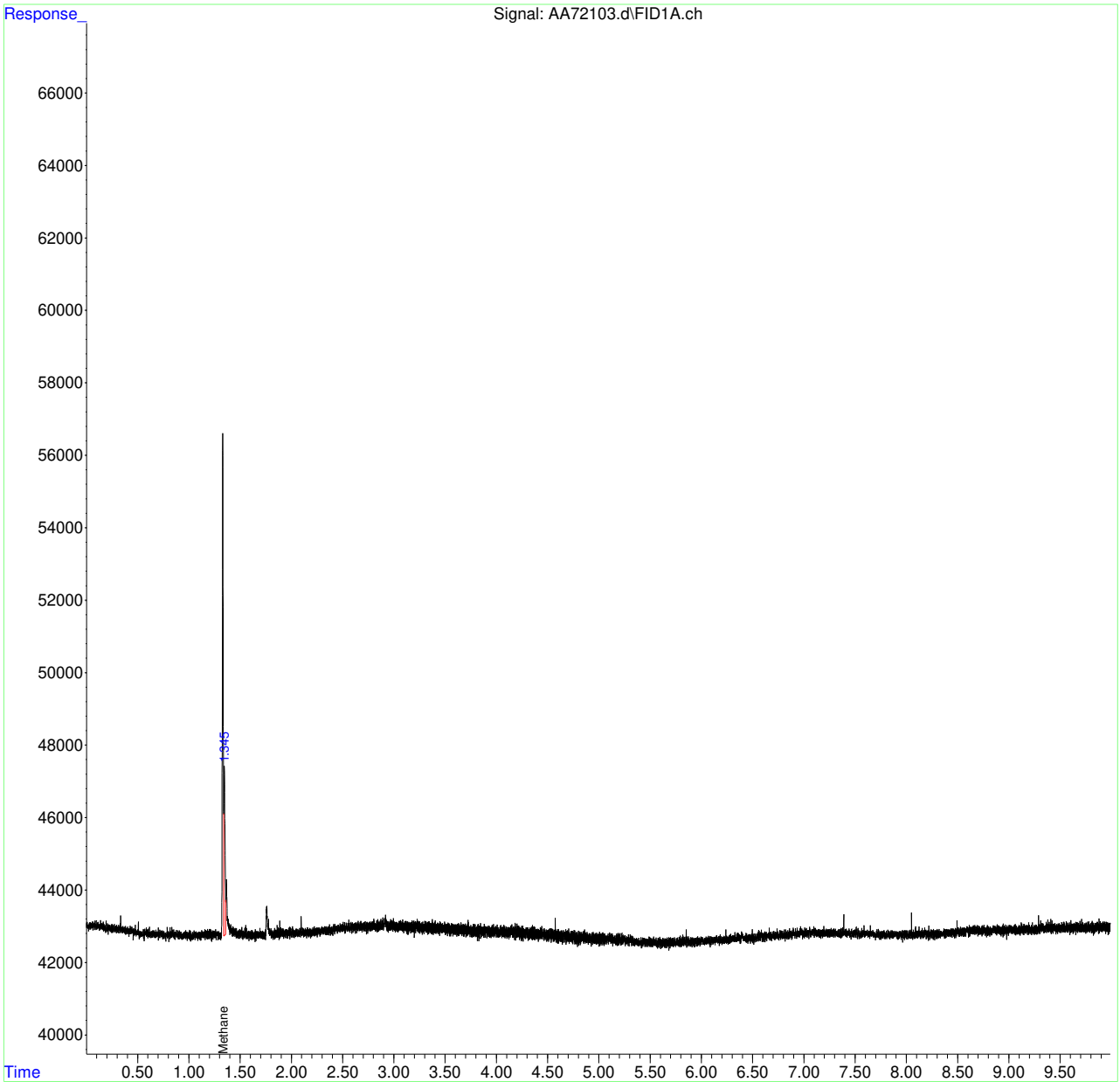
9.2.1
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72103.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 8:20 am
Operator : gabriep
Sample : MB
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 08:32:30 2019
Quant Method : C:\msdchem\1\methods\maa611.m
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Aug 17 09:21:43 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: GAA1691-MB
Lab FileID: AA72103.D
Injection Time: 04/20/19 08:20
Method: RSK-175
Analyst approved: 04/20/19 13:50 Gabriella Pericone
Supervisor approved: 04/22/19 17:04 Kanya Veerawat

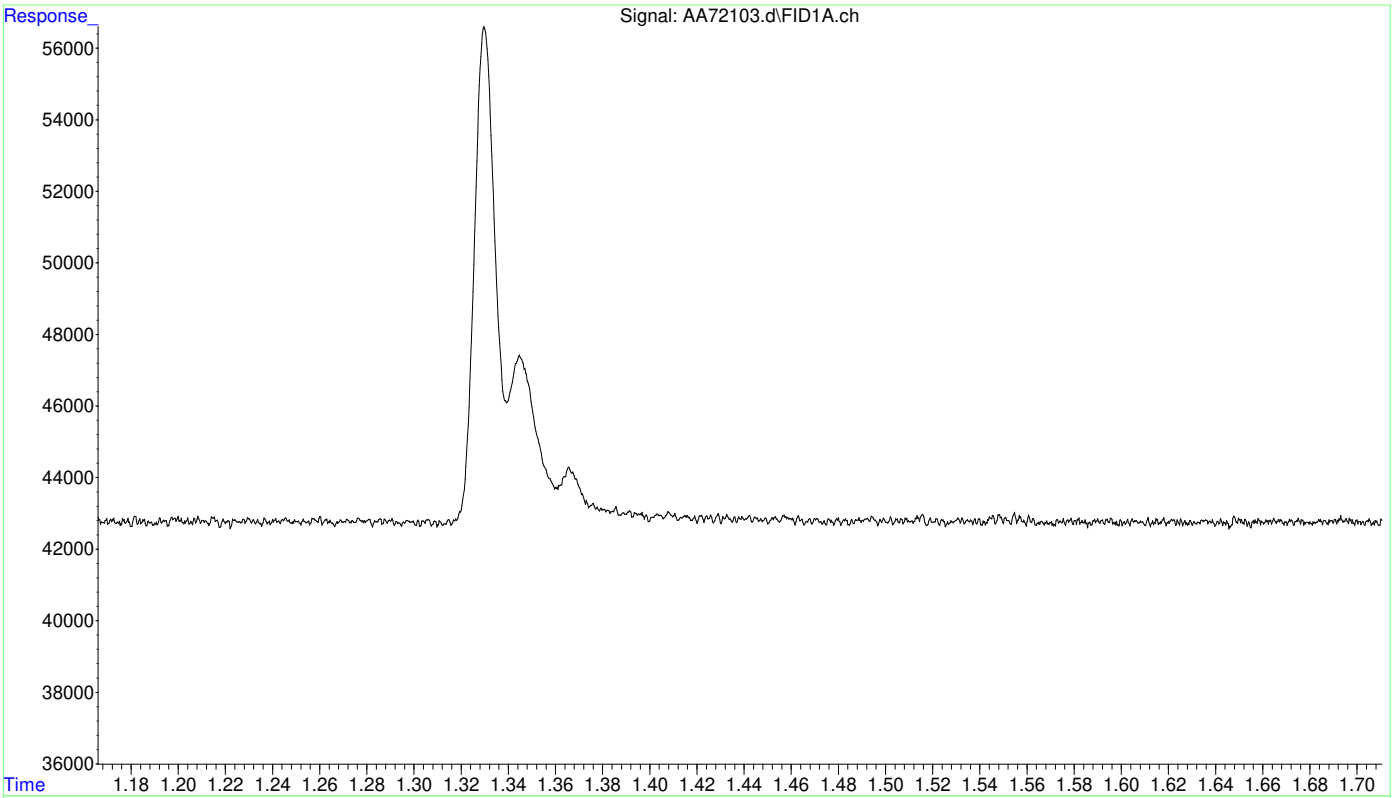
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.34	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72103.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 8:20 am
Operator : gabriep
Sample : MB
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 08:32:02 2019
Quant Method : C:\msdchem\1\methods\maa611.m
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Aug 17 09:21:43 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.327min 0.000 PPMV

response 0

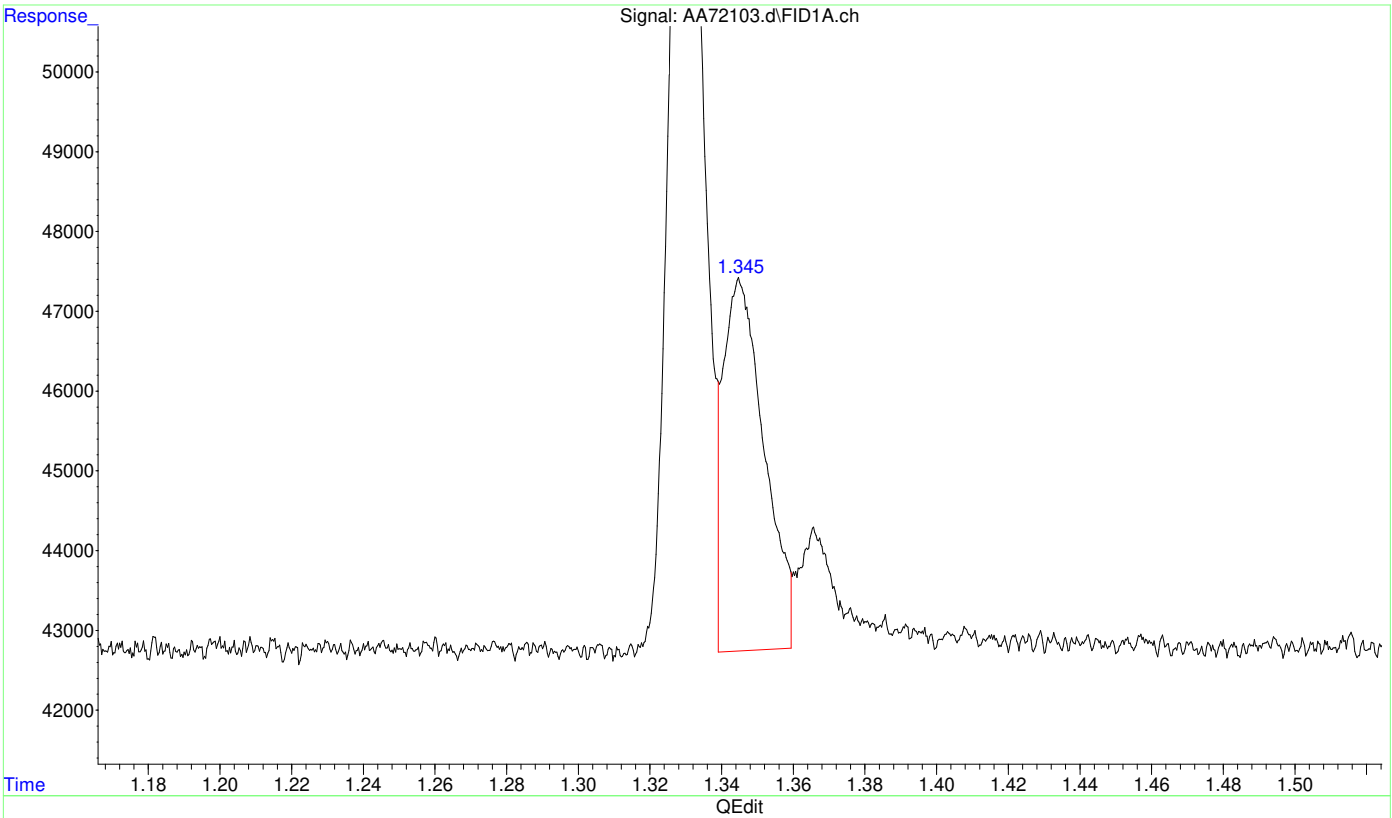
(+) = Expected Retention Time
maa611.m Sat Apr 20 08:32:08 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72103.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 8:20 am
Operator : gabriep
Sample : MB
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 08:32:02 2019
Quant Method : C:\msdchem\1\methods\maa611.m
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Aug 17 09:21:43 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.345min 1.418 PPMV m

response 37171

(+) = Expected Retention Time
maa611.m Sat Apr 20 08:32:44 2019 GCAA

Dissolved Gas Calculation Worksheet

C:\msdchem\1\data\AA72103.d

Data File Name **AA72103.d**
Date Acquired **4/20/2019 8:20**
Sample Name **MB**
Sample Multiplier **1**
Temperature(C) **22**
Headspace Vol. (cc) **5**
Sample Vol(cc) **37**

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Peak Area	Helium Blank	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	RL (ug/l)	Report (ug/l)
METHANE	16	22.4	55.5	295	24.21	37171.399	14777	0.85	0.56	0.08	39080	0.019	0.10	0.10	**ND**
ETHANE	30	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	27860	#DIV/0!	#DIV/0!	0.23	**#DIV/0!**
ETHYLENE	28	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10680	#DIV/0!	#DIV/0!	0.31	**#DIV/0!**
Propane	44	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	33643	#DIV/0!	#DIV/0!	0.33	**#DIV/0!**
n-Butane	58	22.4	55.5	295	24.21	0	0	0.00	0.00	0.00	40945	0.000	0.000	0.41	**ND**

*** ppmv is corrected for helium blank background peak area**

Definitions,

Molar Volume	**The volume of 1 mole of any gas at standard temperature and pressure(STP)**
Water g/Moles	**1 Liter of water is equal to 55.5g-moles**
Temp-kelvin	**Is defined as 273 + degress C**
Corrected Gas Density	**Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)**
Headspace conc(ug/l)	**Is equal to (ppmv reading) x (mw/corrected gas density)**
Water Concentration(ug/l)	**Is equal to headspace conc(ug/l) x headspace vol/sample vol**
Saturation Concentration(ug/l)	**Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)**

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900
Propane	31474	32552	33643	34744	35857	36978	38107	39244	40387	41535	42688
n-Butane	38111	39507	40945	42425	43947	45514	47125	48782	50486	52238	52339

C:\msdchem\custrpt\NATATT.CRT

4/20/2019 8:33 AM

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/22/19 17:04

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72099.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 7:06 am
Operator : gabriep
Sample : LCS
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 07:21:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1)	Methane	1.348	2624535	100.129	PPMV	m
2)	Ethane	1.775	5073300	105.005	PPMV	
3)	Ethene	2.478	5099935	105.079	PPMV	
4)	Propane	2.919	7614678	108.230	PPMV	
5)	n-Butane	4.144	10696974	110.268	PPMV	
6)	n-Pentane	5.188	12873525	106.434	PPMV	
7)	Hexane	6.377	15852587	105.237	PPMV	

(f)=RT Delta > 1/2 Window (m)=manual int.

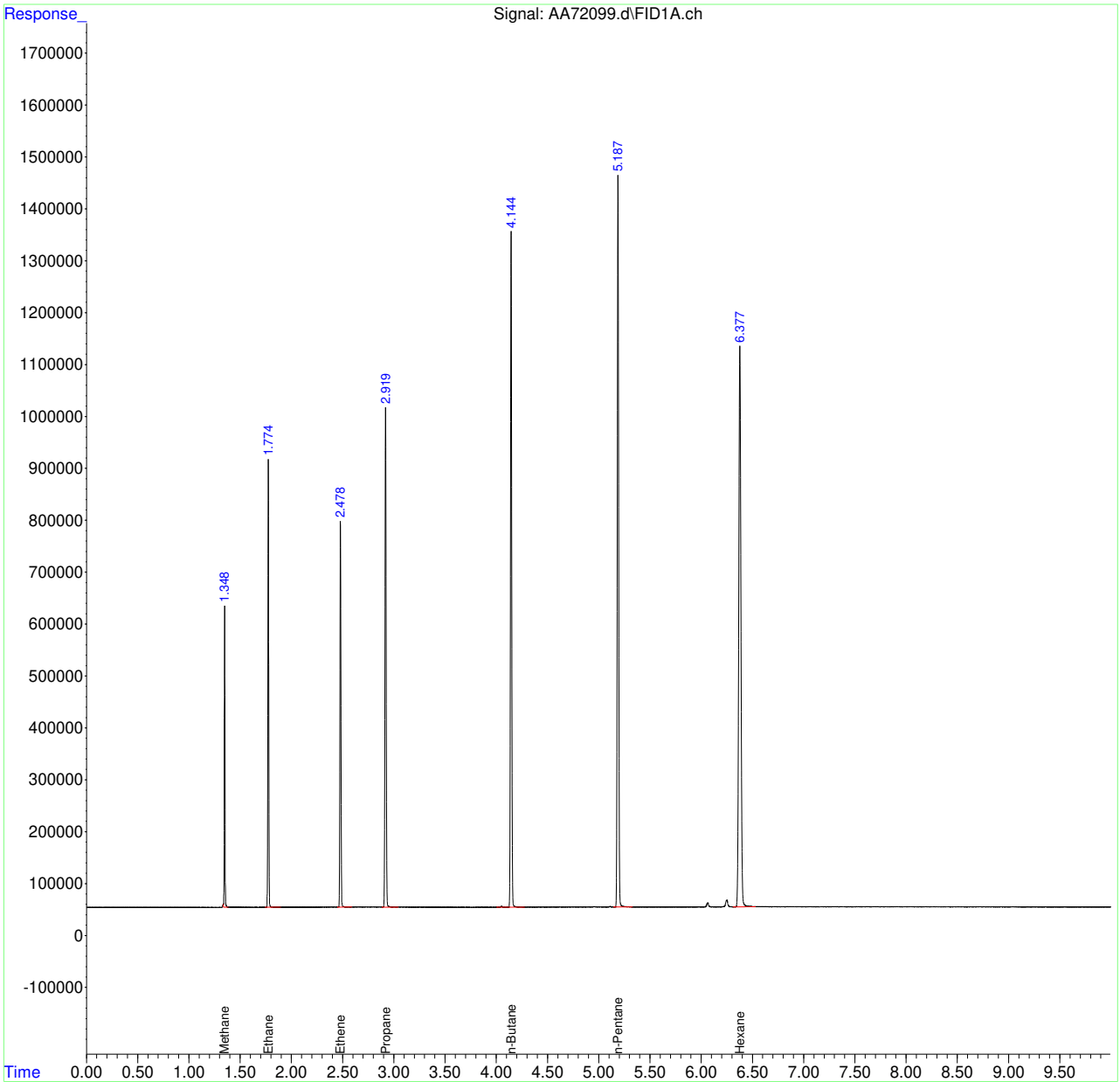
9.3.1
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72099.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 7:06 am
Operator : gabriep
Sample : LCS
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 07:21:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: GAA1691-LCS
Lab FileID: AA72099.D
Injection Time: 04/20/19 07:06
Method: RSK-175
Analyst approved: 04/20/19 13:50 Gabriella Pericone
Supervisor approved: 04/22/19 17:04 Kanya Veerawat

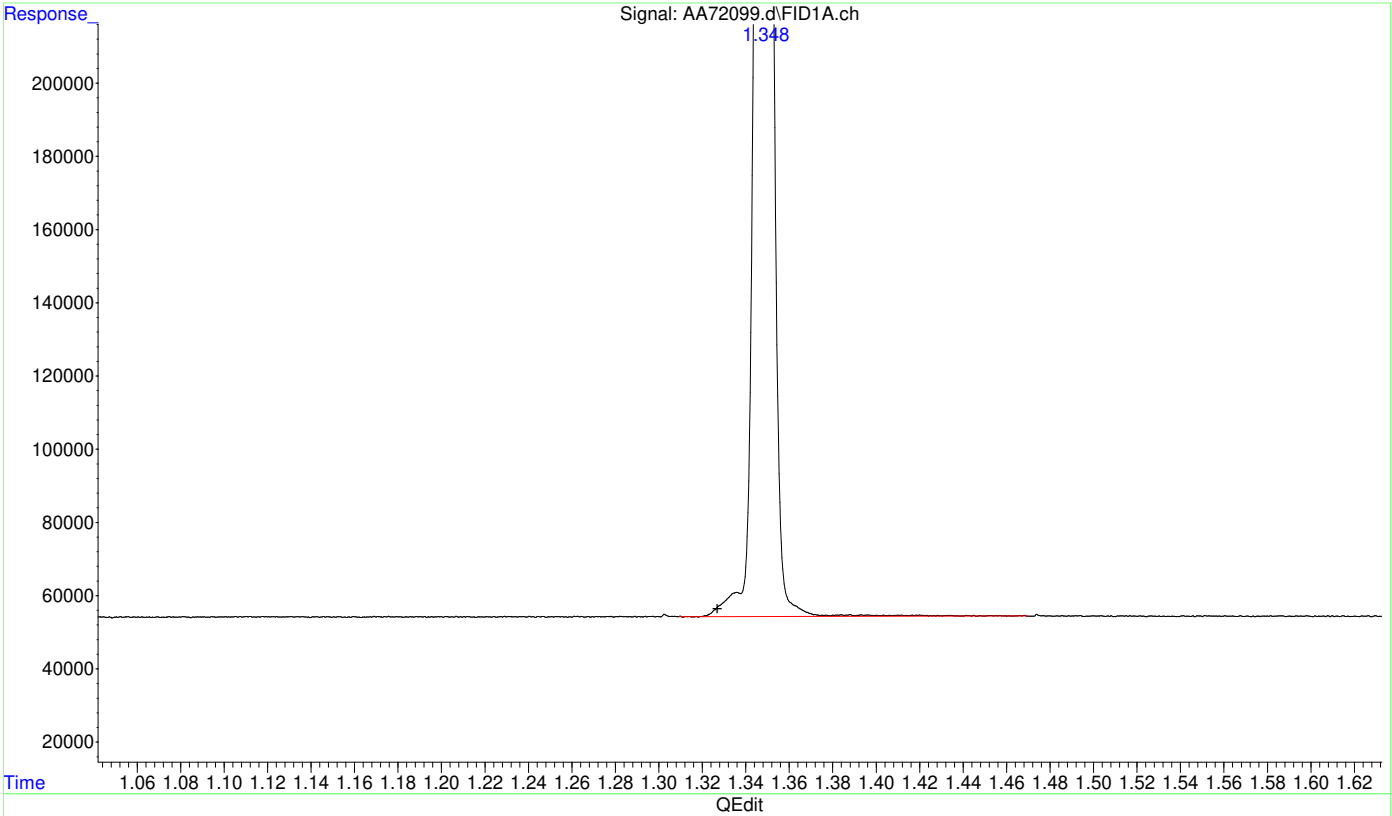
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.35	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72099.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 7:06 am
Operator : gabriep
Sample : LCS
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 07:16:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.349min 101.922 PPMV

response 2671533

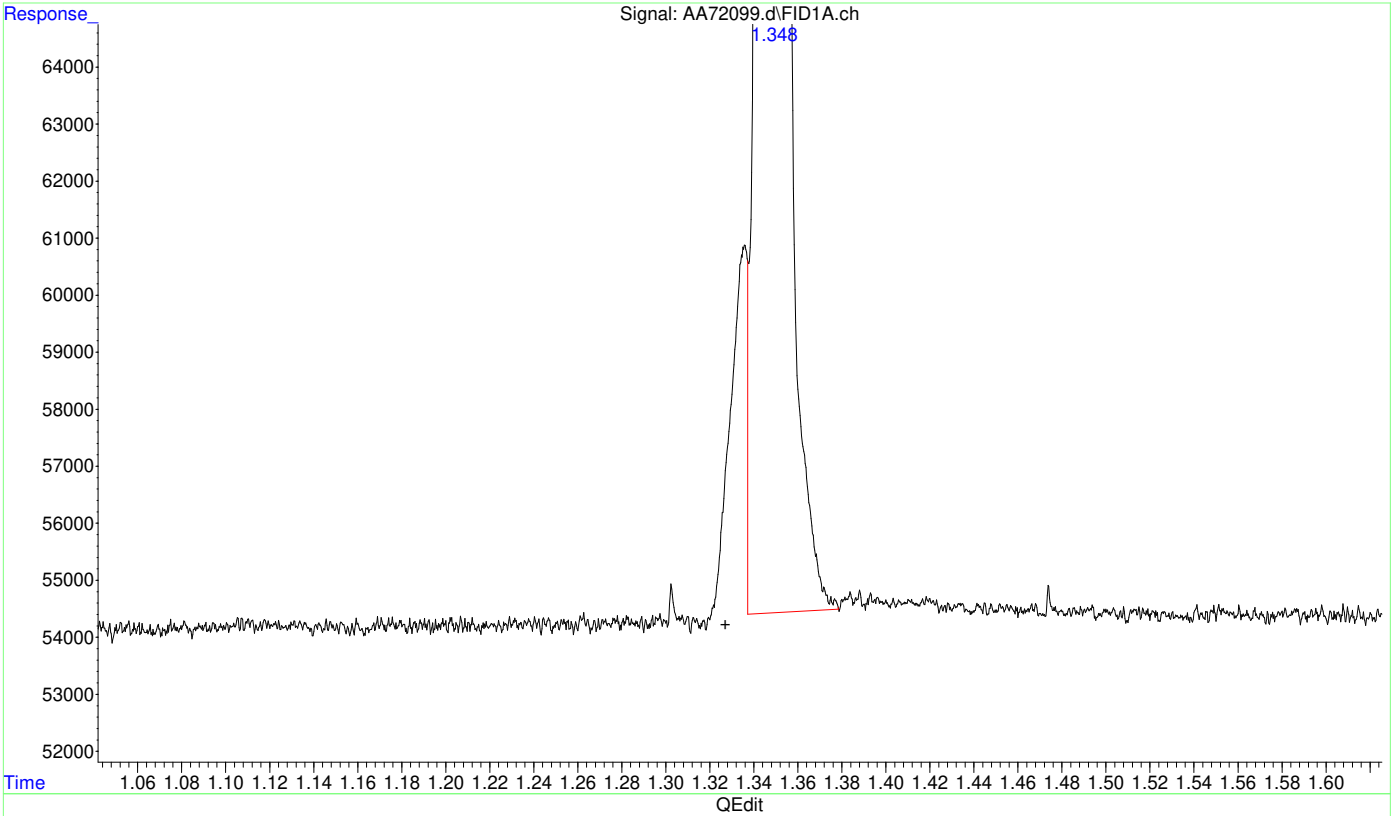
(+) = Expected Retention Time
maa611.m Sat Apr 20 07:21:21 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72099.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 7:06 am
Operator : gabriep
Sample : LCS
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 07:16:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.348min 100.129 PPMV m

response 2624535

(+) = Expected Retention Time
maa611.m Sat Apr 20 07:21:37 2019 GCAA

Dissolved Gas Calculation Worksheet

C:\msdchem\1\data\AA72099.d

Data File Name **AA72099.d**
Date Acquired **4/20/2019 7:06**
Sample Name **LCS**
Sample Multiplier **1**
Temperature(C) **22**
Headspace Vol. (cc) **5**
Sample Vol(cc) **37**

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Peak Area	Helium Blank	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	RL (ug/l)	Report (ug/l)
METHANE	16	22.4	55.5	295	24.21	2624534.74	0	100.13	66.19	8.94	39080	2.275	11.22	0.10	**11.22**
ETHANE	30	22.4	55.5	295	24.21	5073300	0	105.01	130.14	17.59	27860	6.275	23.863	0.23	**23.863**
ETHYLENE	28	22.4	55.5	295	24.21	5099935.38	0	105.08	121.55	16.43	10680	15.290	31.716	0.31	**31.716**
Propane	44	22.4	55.5	295	24.21	7614677.75	0	108.23	196.74	26.59	33643	7.856	34.442	0.33	**34.442**
n-Butane	58	22.4	55.5	295	24.21	10696974.4	0	110.27	264.22	35.71	40945	8.669	44.375	0.41	**44.375**

*** ppmv is corrected for helium blank background peak area**

Definitions,

Molar Volume	**The volume of 1 mole of any gas at standard temperature and pressure(STP)**
Water g/Moles	**1 Liter of water is equal to 55.5g-moles**
Temp-kelvin	**Is defined as 273 + degress C**
Corrected Gas Density	**Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)**
Headspace conc(ug/l)	**Is equal to (ppmv reading) x (mw/corrected gas density)**
Water Concentration(ug/l)	**Is equal to headspace conc(ug/l) x headspace vol/sample vol**
Saturation Concentration(ug/l)	**Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)**

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900
Propane	31474	32552	33643	34744	35857	36978	38107	39244	40387	41535	42688
n-Butane	38111	39507	40945	42425	43947	45514	47125	48782	50486	52238	52339

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/23/19 11:50

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72107.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:44 am
Operator : gabriep
Sample : JC86512-8DUP
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 09:57:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc Units
Target Compounds				
1)	Methane	1.338	58220	2.221 PPMV m

(f)=RT Delta > 1/2 Window (m)=manual int.

9.4.1

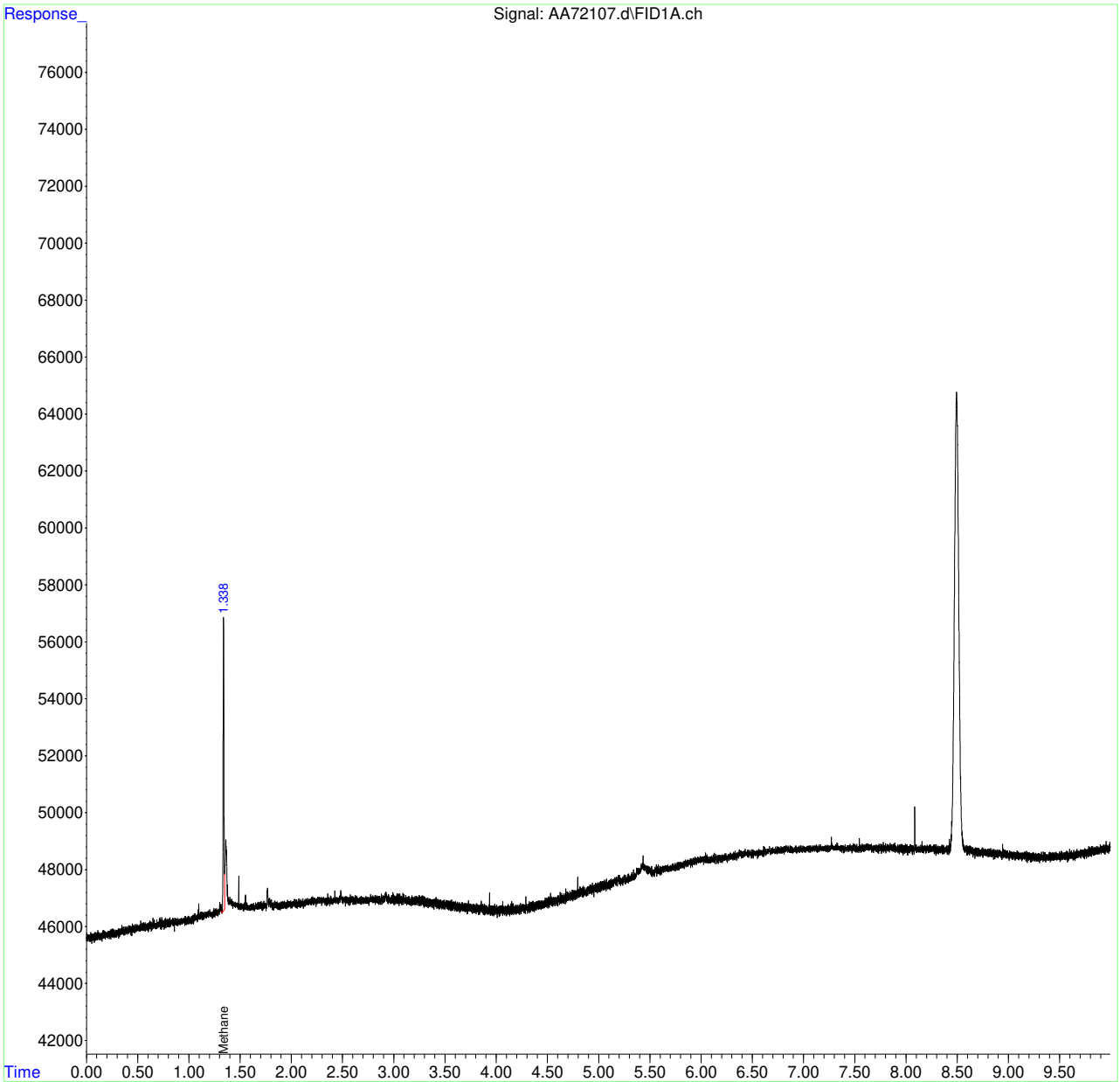
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72107.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:44 am
Operator : gabriep
Sample : JC86512-8DUP
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 09:57:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: JC86512-8DUP
Lab FileID: AA72107.D
Injection Time: 04/20/19 09:44
Method: RSK-175
Analyst approved: 04/20/19 13:50 Gabriella Pericone
Supervisor approved: 04/23/19 11:50 Kanya Veerawat

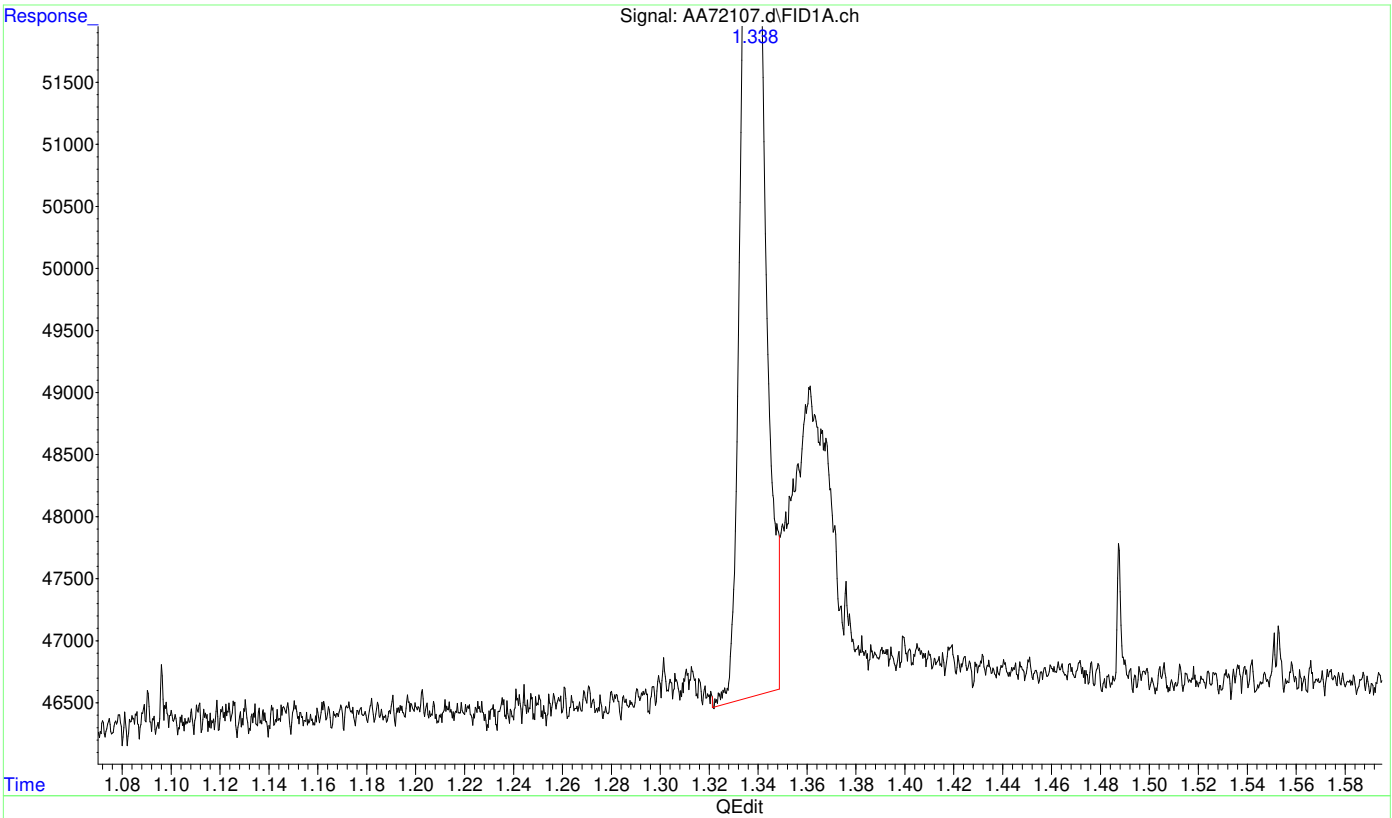
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.34	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72107.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:44 am
Operator : gabriep
Sample : JC86512-8DUP
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 09:54:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.338min 2.221 PPMV m

response 58220

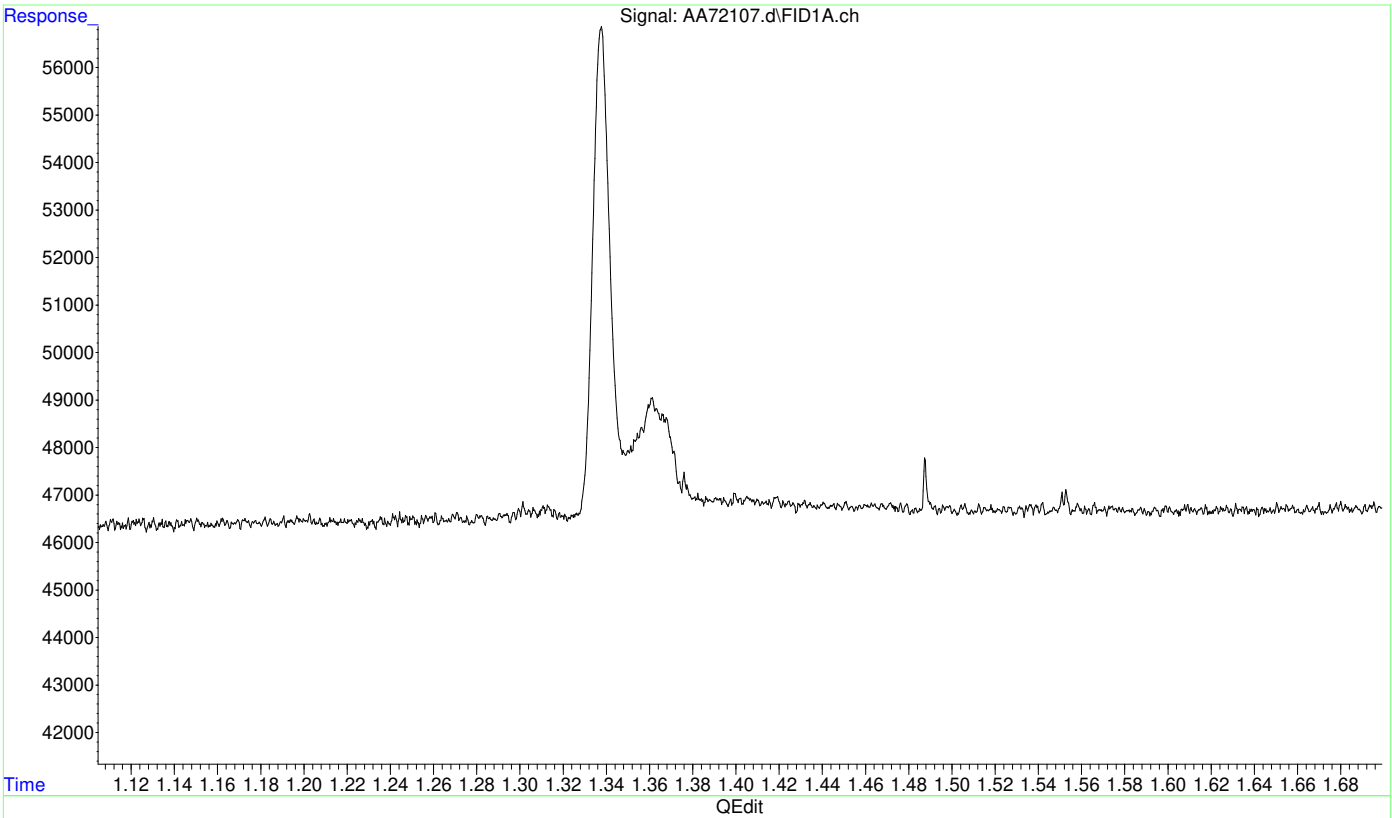
(+) = Expected Retention Time
maa611.m Sat Apr 20 09:57:22 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72107.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 9:44 am
Operator : gabriep
Sample : JC86512-8DUP
Misc : GC54244,GAA1691,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 23 08:00:41 2019
Quant Method : C:\msdchem\1\methods\maa611.m
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Aug 17 09:21:43 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.327min 0.000 PPMV

response 0

(+) = Expected Retention Time
maa611.m Tue Apr 23 08:00:49 2019 GCAA

Dissolved Gas Calculation Worksheet

C:\msdchem\1\data\AA72107.d

Data File Name **AA72107.d**
Date Acquired **4/20/2019 9:44**
Sample Name **JC86512-8DUP**
Sample Multiplier **1**
Temperature(C) **22**
Headspace Vol. (cc) **5**
Sample Vol(cc) **39**

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Peak Area	Helium Blank	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	RL (ug/l)	Report (ug/l)
METHANE	16	22.4	55.5	295	24.21	58220.108	14777	1.66	1.10	0.14	39080	0.038	0.18	0.10	**0.18**
ETHANE	30	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	27860	#DIV/0!	#DIV/0!	0.23	**#DIV/0!**
ETHYLENE	28	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10680	#DIV/0!	#DIV/0!	0.31	**#DIV/0!**
Propane	44	22.4	55.5	295	24.21	0	0	#DIV/0!	#DIV/0!	#DIV/0!	33643	#DIV/0!	#DIV/0!	0.33	**#DIV/0!**
n-Butane	58	22.4	55.5	295	24.21	0	0	0.00	0.00	0.00	40945	0.000	0.000	0.41	**ND**

*** ppmv is corrected for helium blank background peak area**

Definitions,

Molar Volume	**The volume of 1 mole of any gas at standard temperature and pressure(STP)**
Water g/Moles	**1 Liter of water is equal to 55.5g-moles**
Temp-kelvin	**Is defined as 273 + degress C**
Corrected Gas Density	**Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)**
Headspace conc(ug/l)	**Is equal to (ppmv reading) x (mw/corrected gas density)**
Water Concentration(ug/l)	**Is equal to headspace conc(ug/l) x headspace vol/sample vol**
Saturation Concentration(ug/l)	**Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)**

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900
Propane	31474	32552	33643	34744	35857	36978	38107	39244	40387	41535	42688
n-Butane	38111	39507	40945	42425	43947	45514	47125	48782	50486	52238	52339

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44601.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 9:34 am
Operator : THOMASH
Sample : IC611-2.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:17:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.327	50005	1.586	PPMV
2)	Ethane	1.763	84242	1.724	PPMV
3)	Ethene	2.485	83535	1.725	PPMV
4)	Propane	2.941	121231	1.698	PPMV
7)	n-Butane	4.181	165088	1.643	PPMV
9)	n-Pentane	5.233	202288	1.534	PPMV
10)	Hexane	6.454	266972	1.431	PPMV

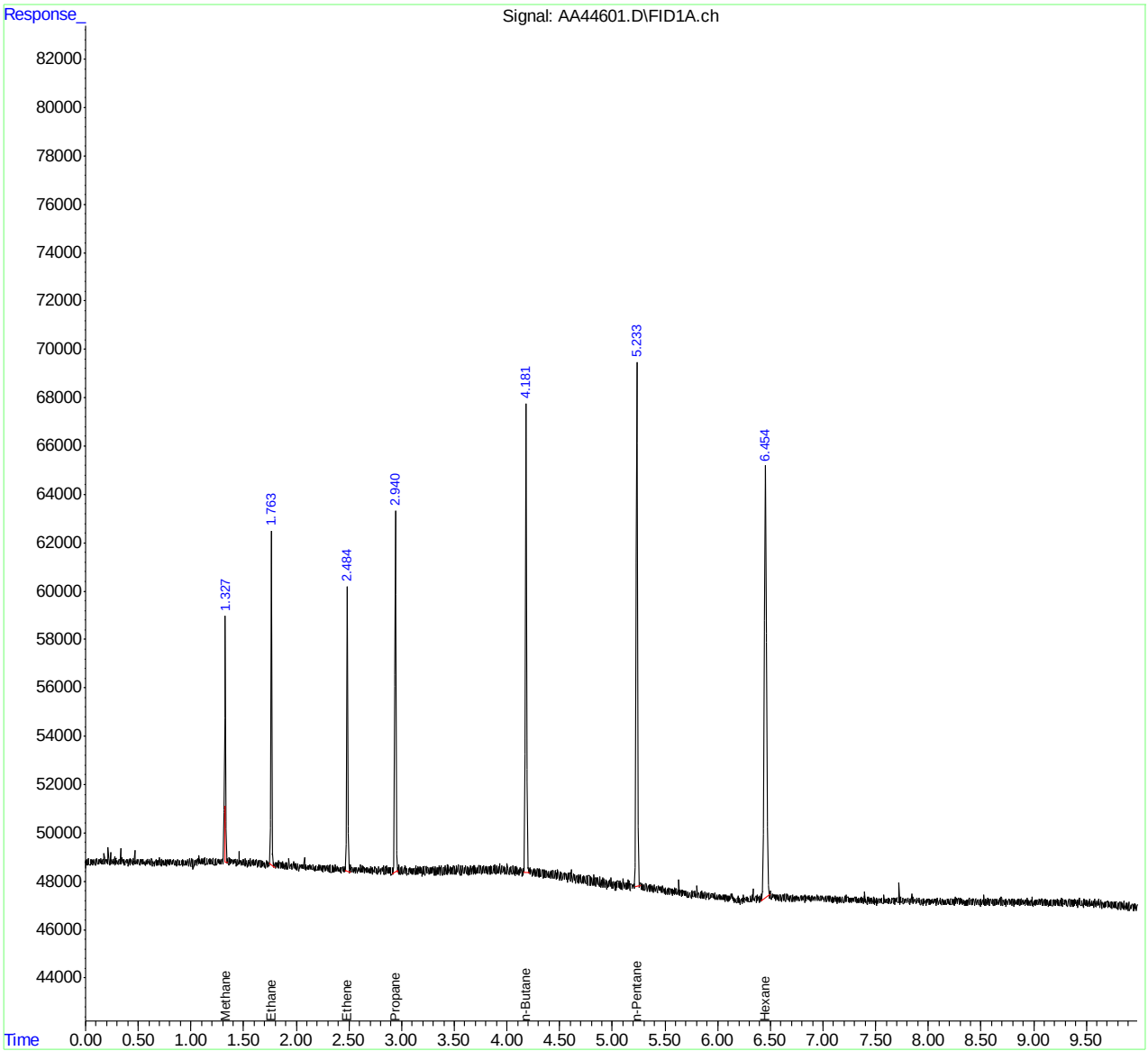
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44601.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 9:34 am
Operator : THOMASH
Sample : IC611-2.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:17:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44602.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 10:01 am
Operator : THOMASH
Sample : IC611-10
Misc : GC45339,GAA611,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.324	303369	9.624	PPMV
2)	Ethane	1.760	497423	10.178	PPMV
3)	Ethene	2.483	496402	10.249	PPMV
4)	Propane	2.940	740534	10.373	PPMV
7)	n-Butane	4.180	1077915	10.728	PPMV
9)	n-Pentane	5.225	1454474	11.028	PPMV
10)	Hexane	6.438	1958501	10.495	PPMV

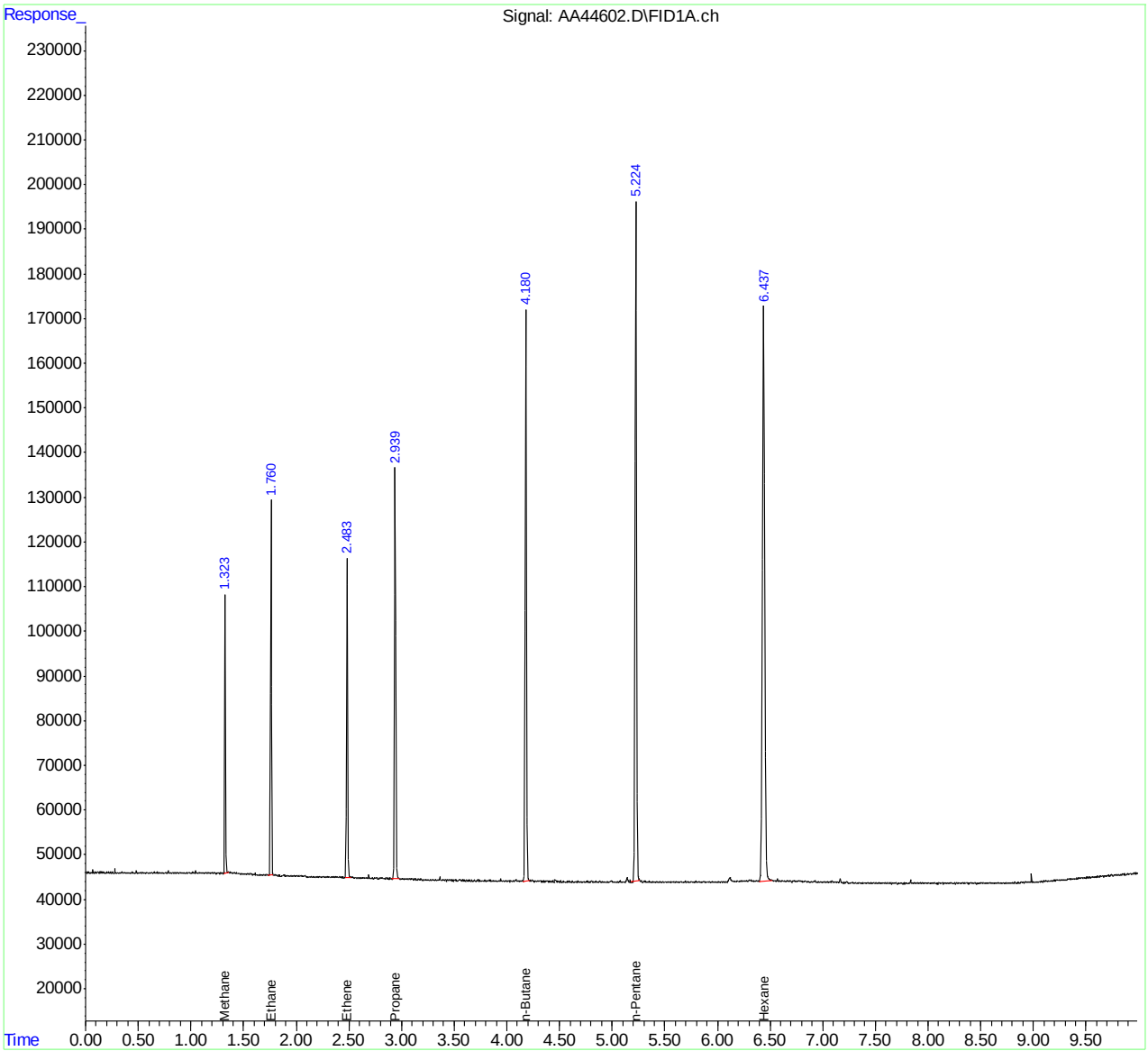
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44602.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 10:01 am
Operator : THOMASH
Sample : IC611-10
Misc : GC45339,GAA611,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44603.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 10:36 am
Operator : THOMASH
Sample : IC611-20
Misc : GC45339,GAA611,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.328	445428	14.131	PPMV
2)	Ethane	1.764	842679	17.243	PPMV
3)	Ethene	2.485	837503	17.292	PPMV
4)	Propane	2.941	1252123	17.539	PPMV
7)	n-Butane	4.180	1781233	17.727	PPMV
9)	n-Pentane	5.226	2315413	17.555	PPMV
10)	Hexane	6.442	3005302	16.104	PPMV

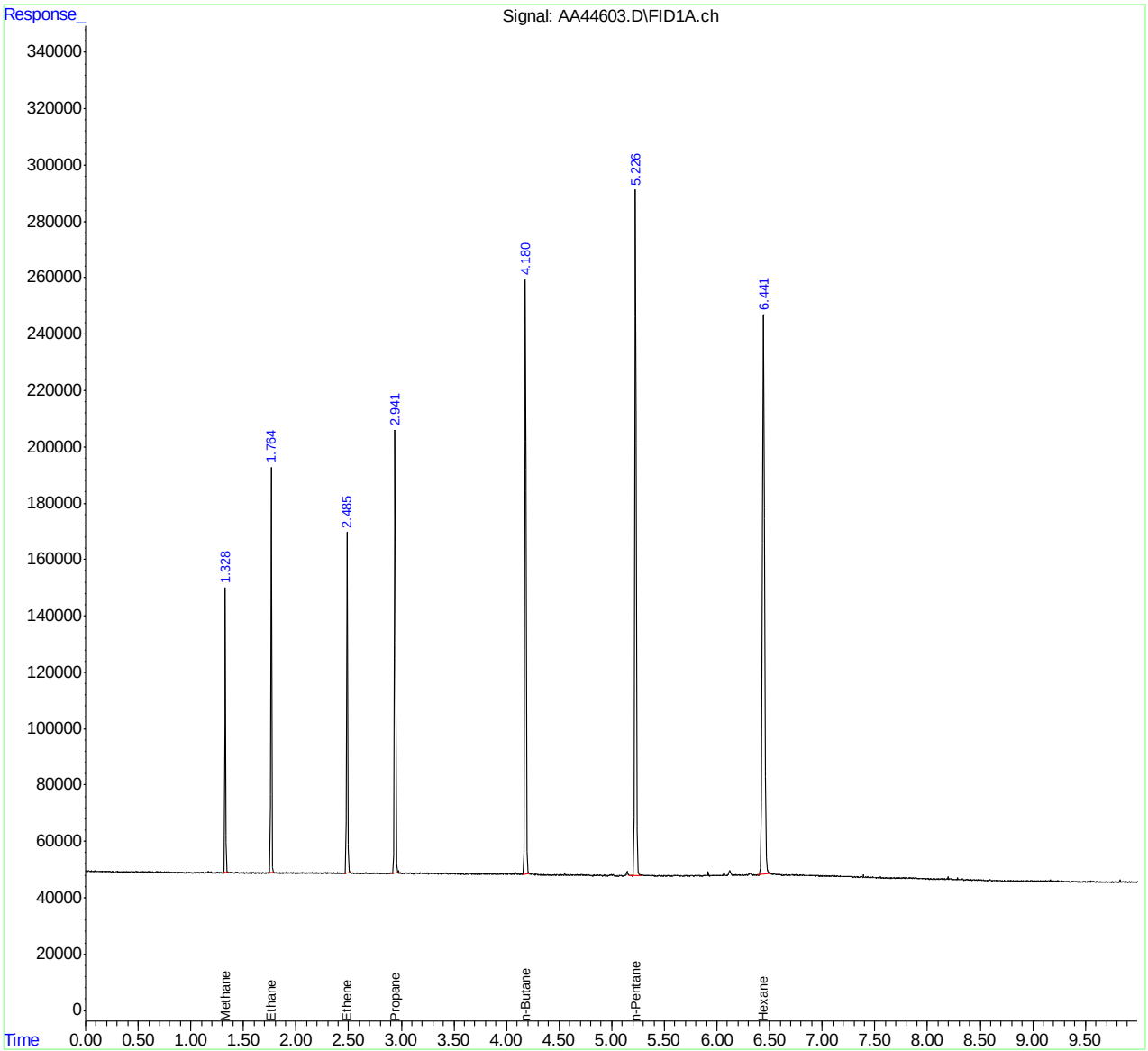
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44603.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 10:36 am
Operator : THOMASH
Sample : IC611-20
Misc : GC45339,GAA611,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44604.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:15 am
Operator : THOMASH
Sample : ICC611-100
Misc : GC45339,GAA611,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.327	2971911	94.280	PPMV
2)	Ethane	1.764	5690884	116.449	PPMV
3)	Ethene	2.484	5674706	117.164	PPMV
4)	Propane	2.940	8351927	116.992	PPMV
7)	n-Butane	4.180	11376855	113.226	PPMV
9)	n-Pentane	5.239	13552151	102.750	PPMV
10)	Hexane	6.463	14619275	78.337	PPMV

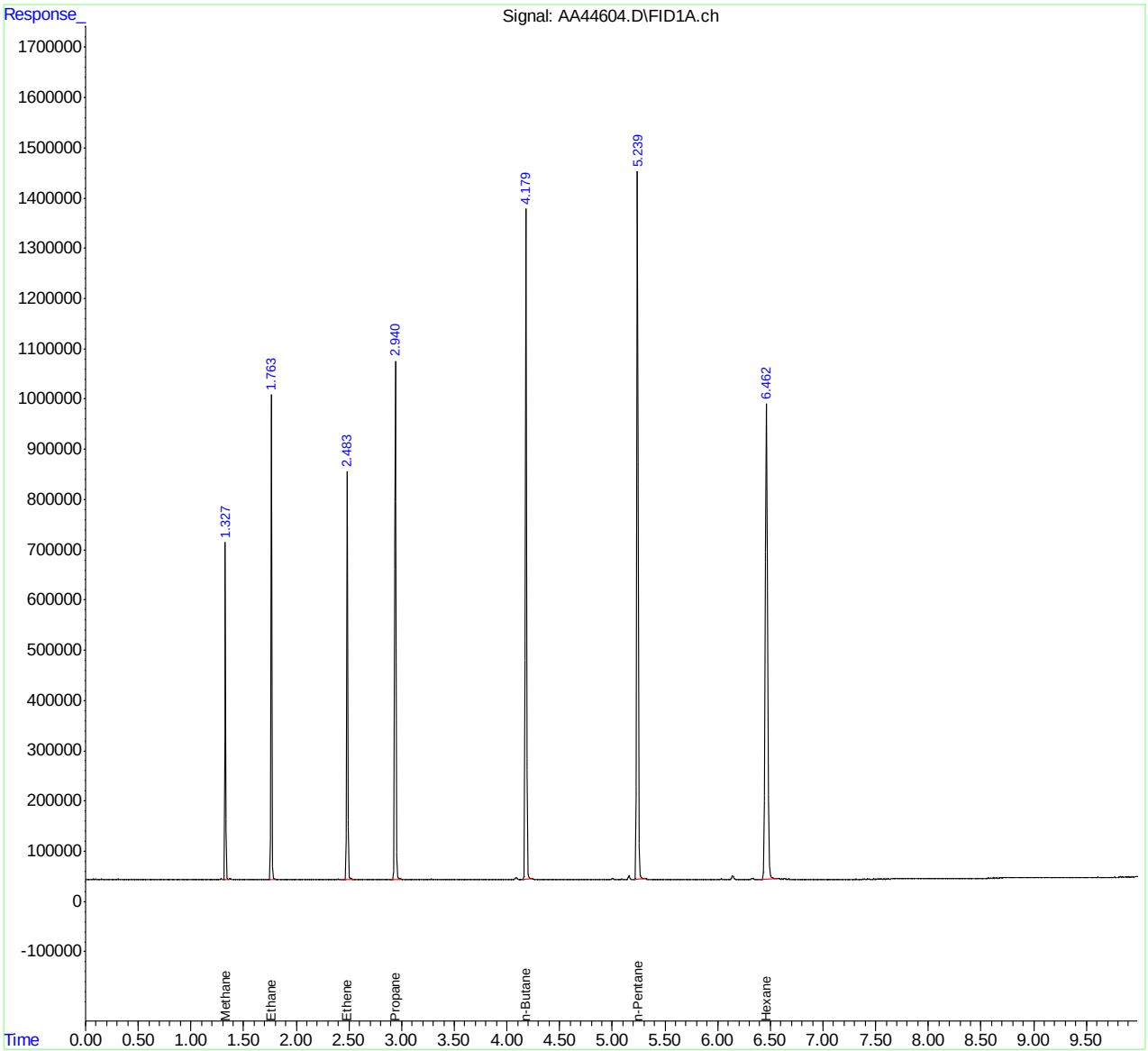
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44604.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:15 am
Operator : THOMASH
Sample : ICC611-100
Misc : GC45339,GAA611,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:18:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44605.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:29 am
Operator : THOMASH
Sample : IC611-200
Misc : GC45339,GAA611,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:04 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.324	6989667	221.738	PPMV
2)	Ethane	1.761	13356672	273.308	PPMV
3)	Ethene	2.481	13332372	275.271	PPMV
4)	Propane	2.938	19541599	273.734	PPMV
7)	n-Butane	4.176	26661382	265.341	PPMV
9)	n-Pentane	5.222	32551597	246.801	PPMV
10)	Hexane	6.437	37952228	203.366	PPMV

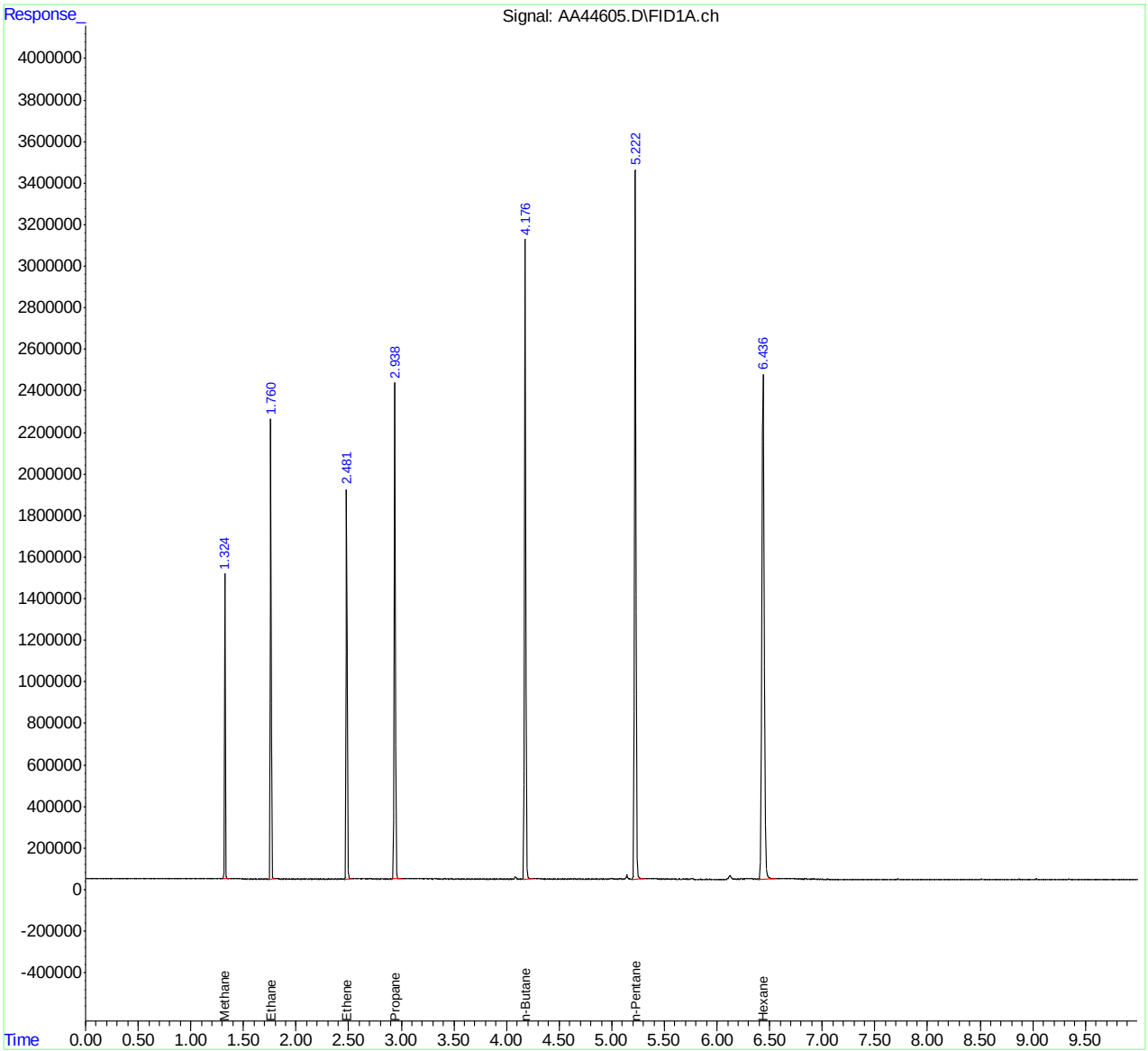
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44605.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:29 am
Operator : THOMASH
Sample : IC611-200
Misc : GC45339,GAA611,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:04 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44606.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:48 am
Operator : THOMASH
Sample : IC611-500
Misc : GC45339,GAA611,,,,,1
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.326	14163139	449.306	PPMV
2)	Ethane	1.762	27421684	561.110	PPMV
3)	Ethene	2.480	27365973	565.019	PPMV
4)	Propane	2.937	40157700	562.519	PPMV
7)	n-Butane	4.175	54894590	546.326	PPMV
9)	n-Pentane	5.222	66545758	504.540	PPMV
10)	Hexane	6.437	77080355	413.033	PPMV

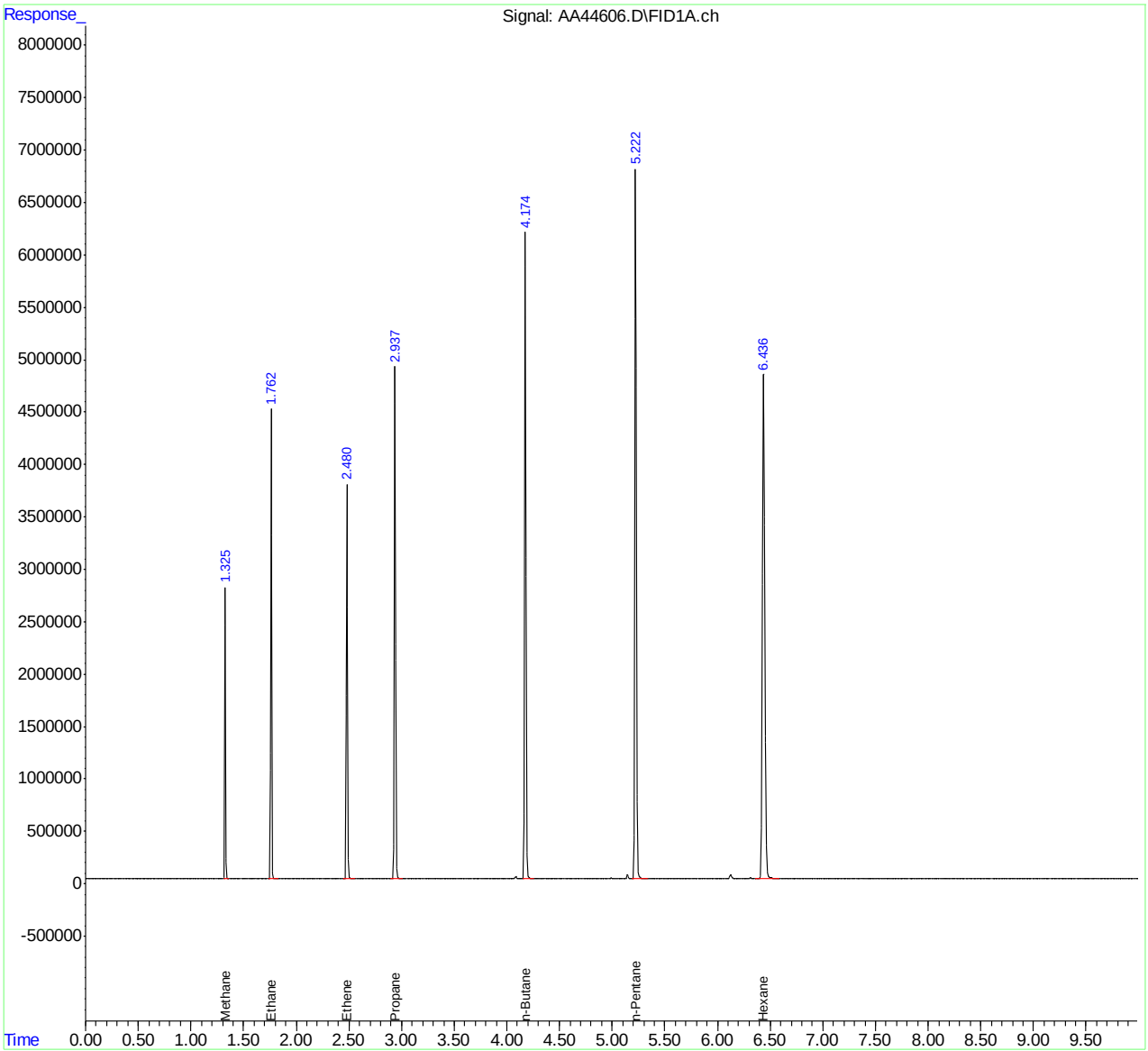
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44606.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 11:48 am
Operator : THOMASH
Sample : IC611-500
Misc : GC45339,GAA611,,,,,1
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44607.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:08 pm
Operator : THOMASH
Sample : IC611-1000
Misc : GC45339,GAA611,,,,,1
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.318	26887456	852.968	PPMV
2)	Ethane	1.756	51970289	1063.431	PPMV
3)	Ethene	2.474	51909519	1071.765	PPMV
4)	Propane	2.933	75960331	1064.033	PPMV
7)	n-Butane	4.171	103688279	1031.934	PPMV
9)	n-Pentane	5.221	125775805	953.614	PPMV
10)	Hexane	6.436	145357798	778.895	PPMV

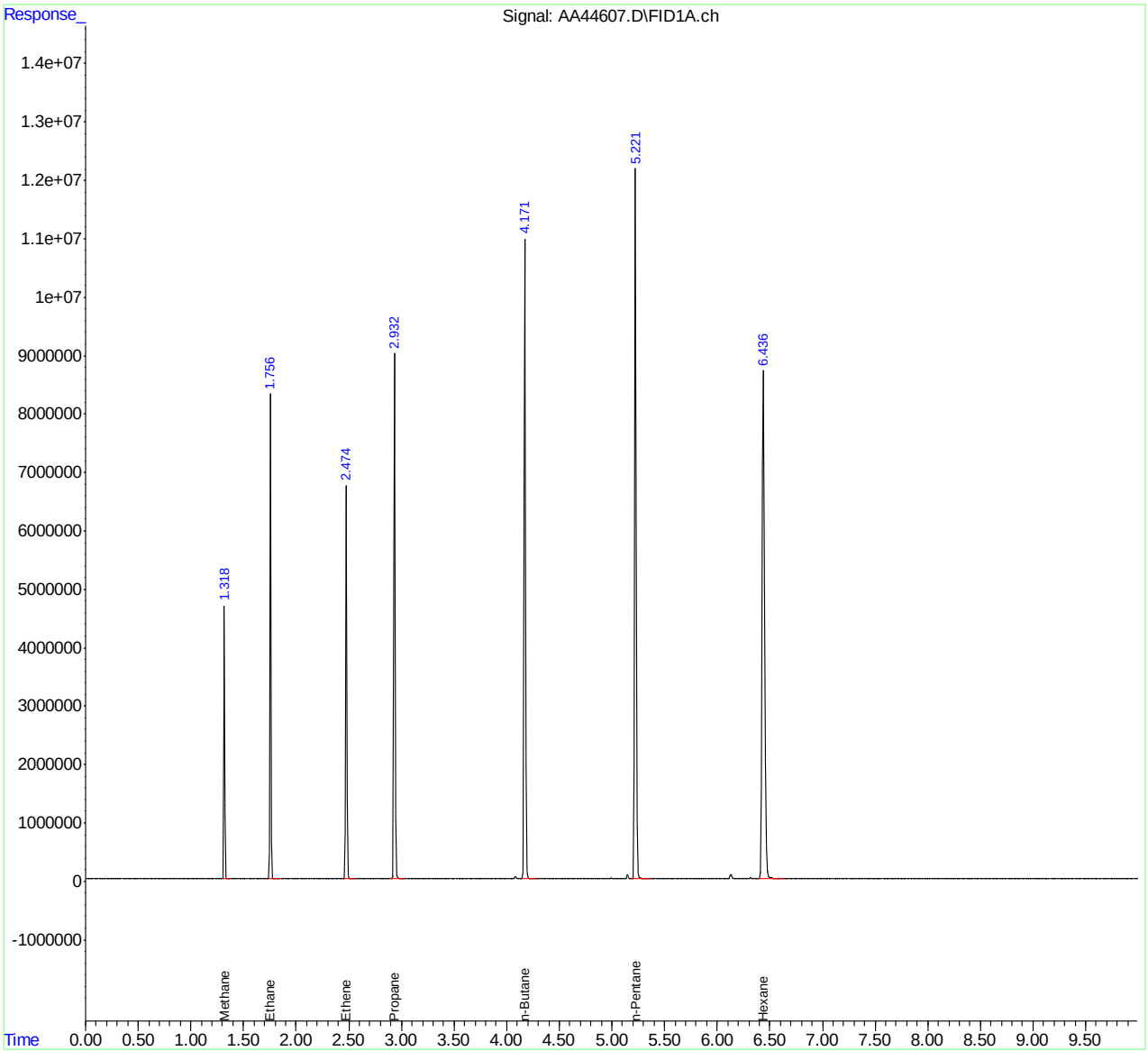
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44607.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:08 pm
Operator : THOMASH
Sample : IC611-1000
Misc : GC45339,GAA611,,,,,1
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:19:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Thu Jan 22 12:47:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu 02/04/15 18:03

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:41:38 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc Units
Target Compounds				
1)	Methane	1.331	12200	0.425 PPMV m
2)	Ethane	1.767	22014	0.463 PPMV
3)	Ethene	2.487	24941	0.527 PPMV m
4)	Propane	2.943	28076	0.401 PPMV
7)	n-Butane	4.181	36123	0.369 PPMV
9)	n-Pentane	5.230	48120	0.389 PPMV
10)	Hexane	6.449	90023	0.571 PPMV

(f)=RT Delta > 1/2 Window (m)=manual int.

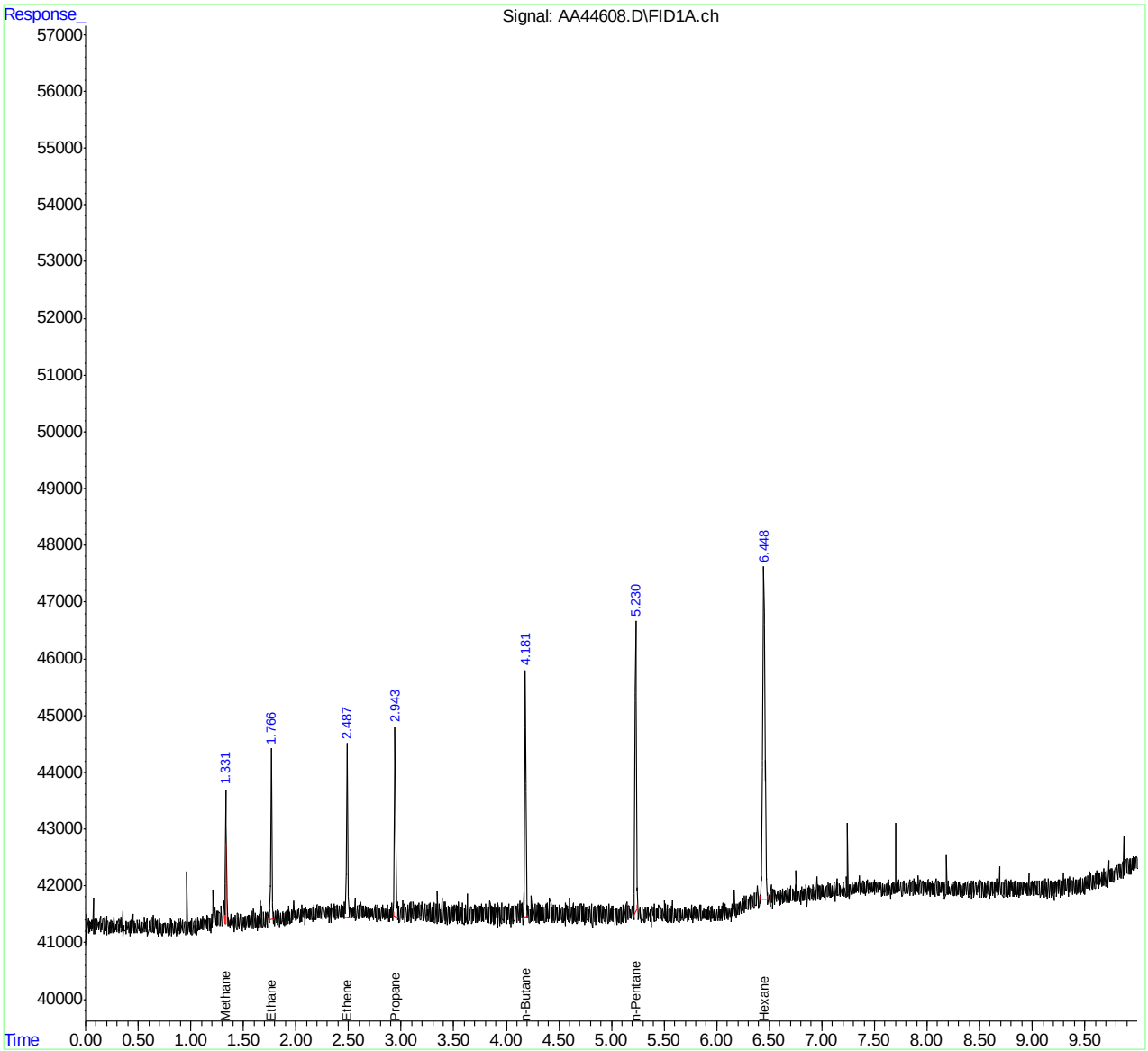
9.5.8
6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:41:38 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: GAA611-IC611
Lab FileID: AA44608.D
Injection Time: 02/04/15 12:25
Method: RSK-175
Analyst approved: 02/04/15 14:21 Thomas Hilbig
Supervisor approved: 02/04/15 18:03 Jessica Reitan-Chu

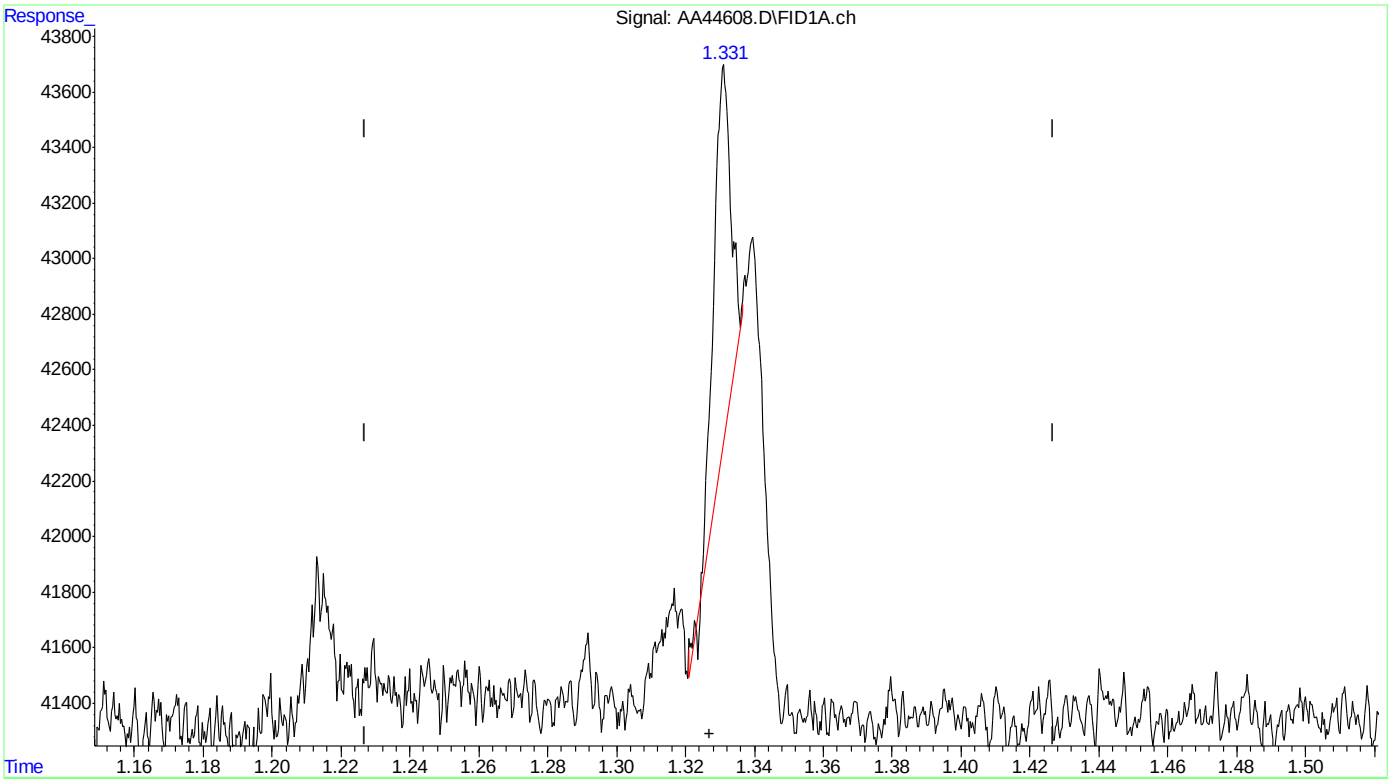
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.33	Poor instrument integration
Ethene	74-85-1	1	2.49	Poorly defined baseline

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:35:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.331min 0.155 PPMV

response 4459

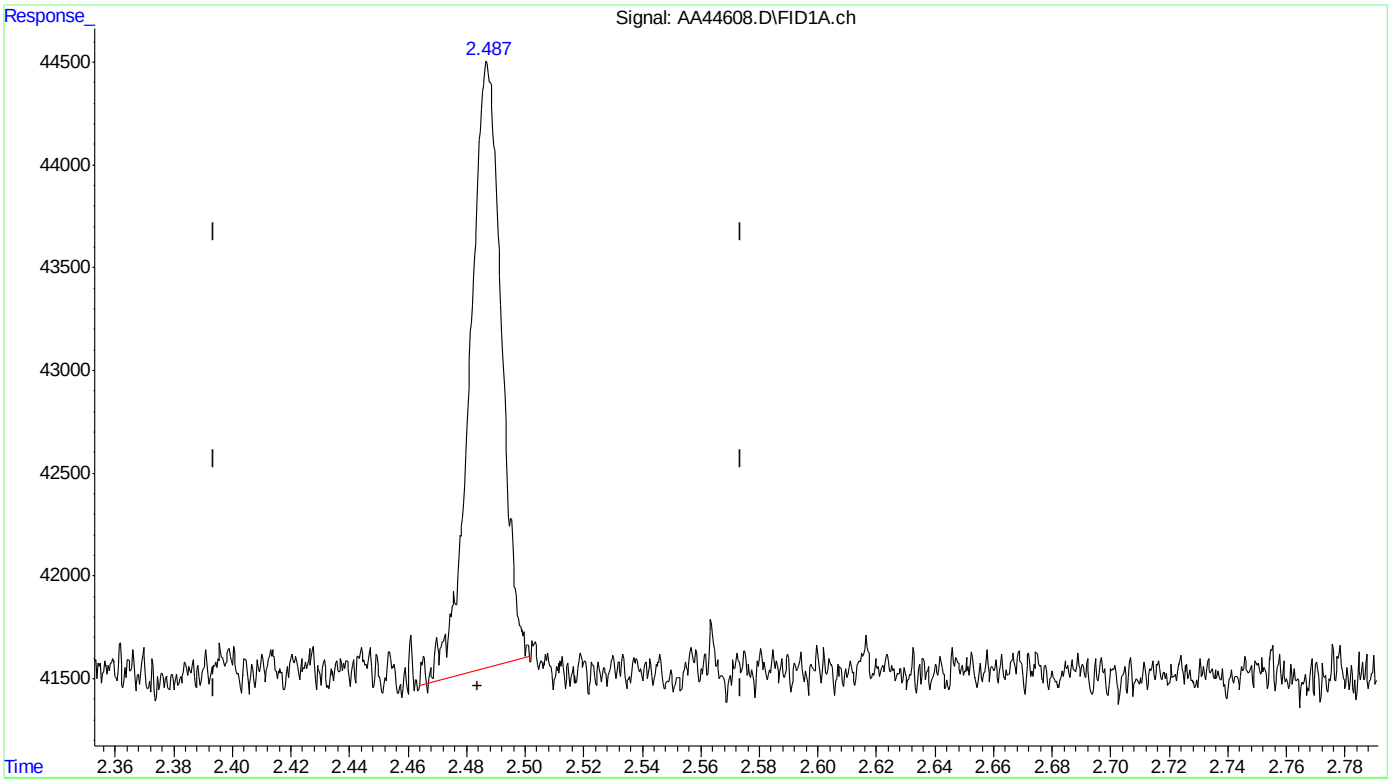
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:39:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(3) Ethene

2.487min 0.468 PPMV

response 22118

(+) = Expected Retention Time

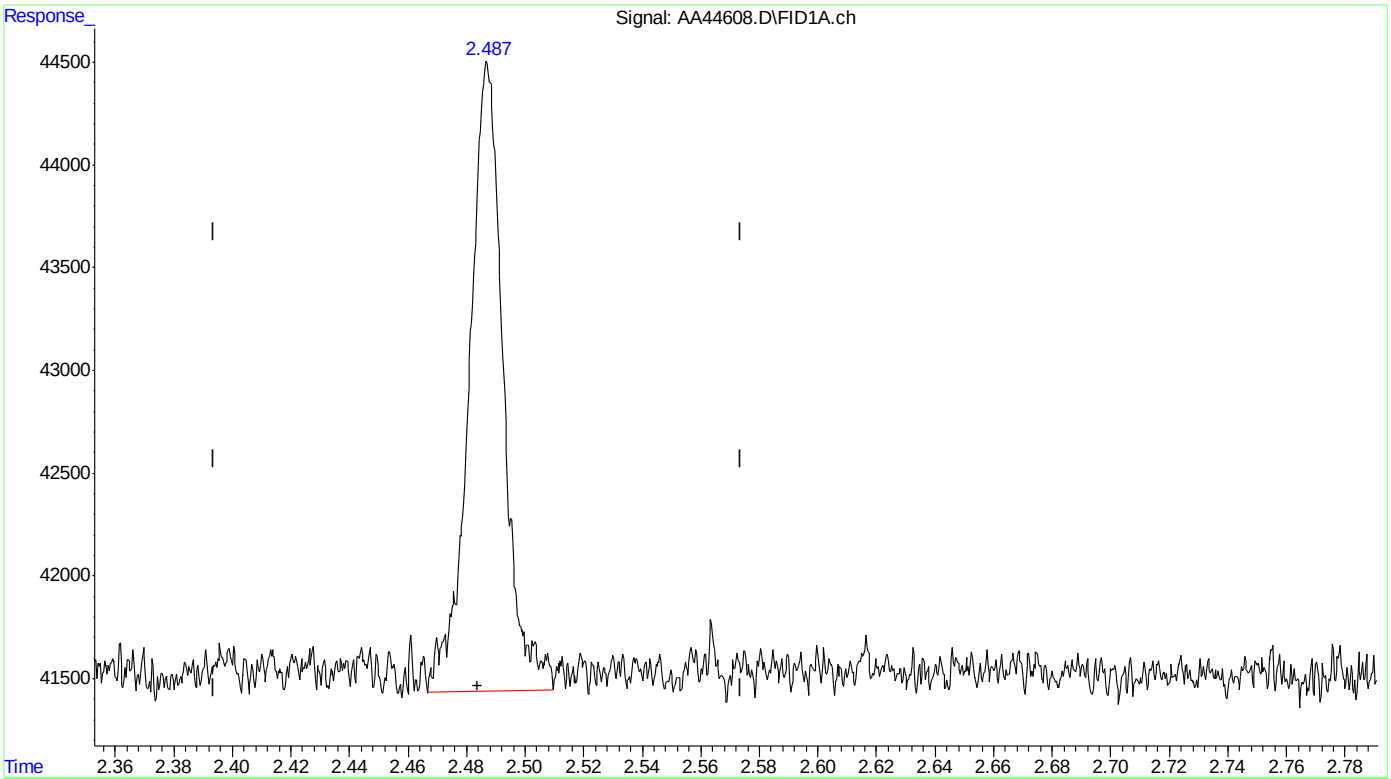
MAA611.M Wed Feb 04 12:41:32 2015 S

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:39:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(3) Ethene

2.487min 0.527 PPMV m

response 24941

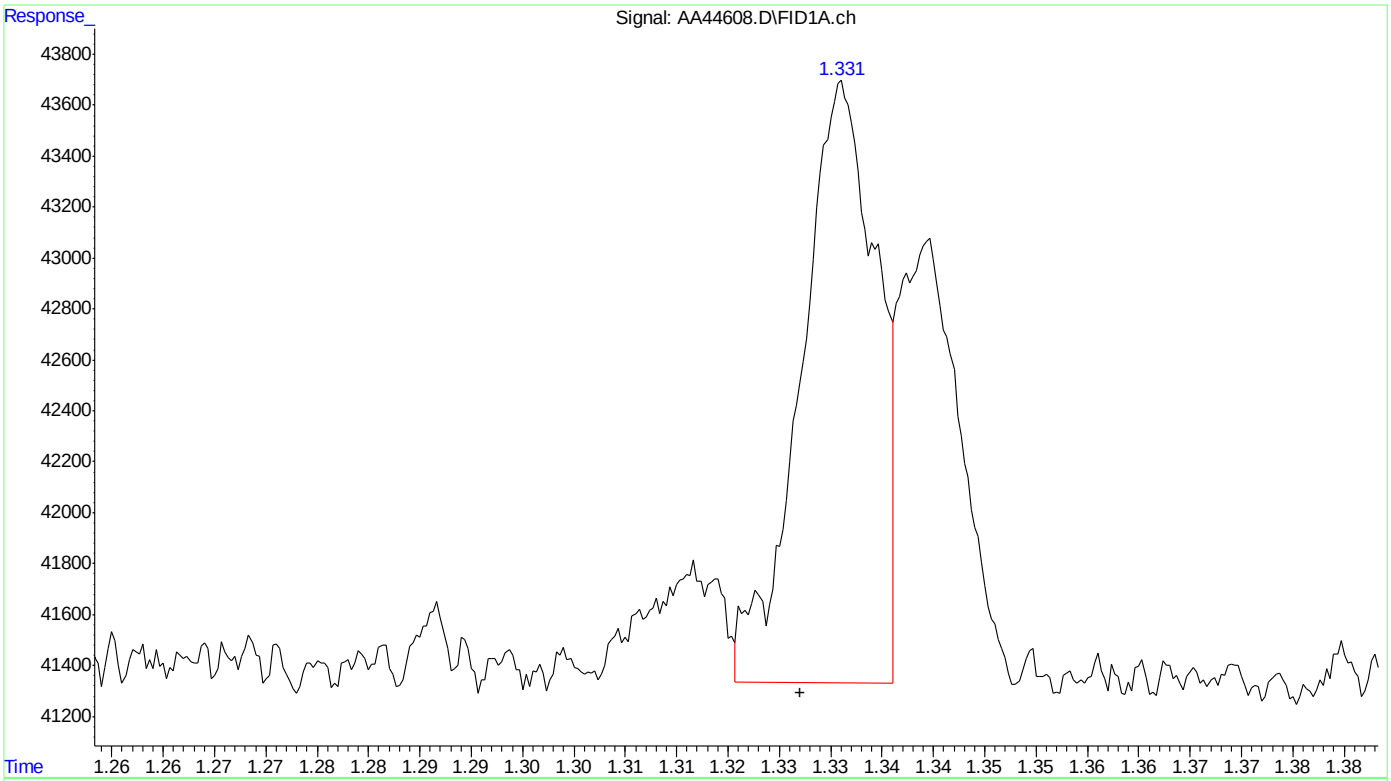
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : AA44608.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:25 pm
Operator : THOMASH
Sample : IC611-1.0
Misc : GC45339,GAA611,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 12:41:38 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:22:06 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.331min 0.425 PPMV m

response 12200

(+) = Expected Retention Time

MAA611.M Wed Feb 04 14:18:24 2015 S

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44609.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:59 pm
Operator : THOMASH
Sample : ICV611-100
Misc : GC45339,GAA611,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 14:15:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc	Units
Target Compounds					
1)	Methane	1.321	2858301	109.048	PPMV
2)	Ethane	1.758	5476159	113.344	PPMV
3)	Ethene	2.482	5478342	112.876	PPMV
4)	Propane	2.939	8025951	114.075	PPMV
7)	n-Butane	4.179	10706252	110.363	PPMV
9)	n-Pentane	5.223	12071885	99.806	PPMV
10)	Hexane	6.437	13191061	87.568	PPMV

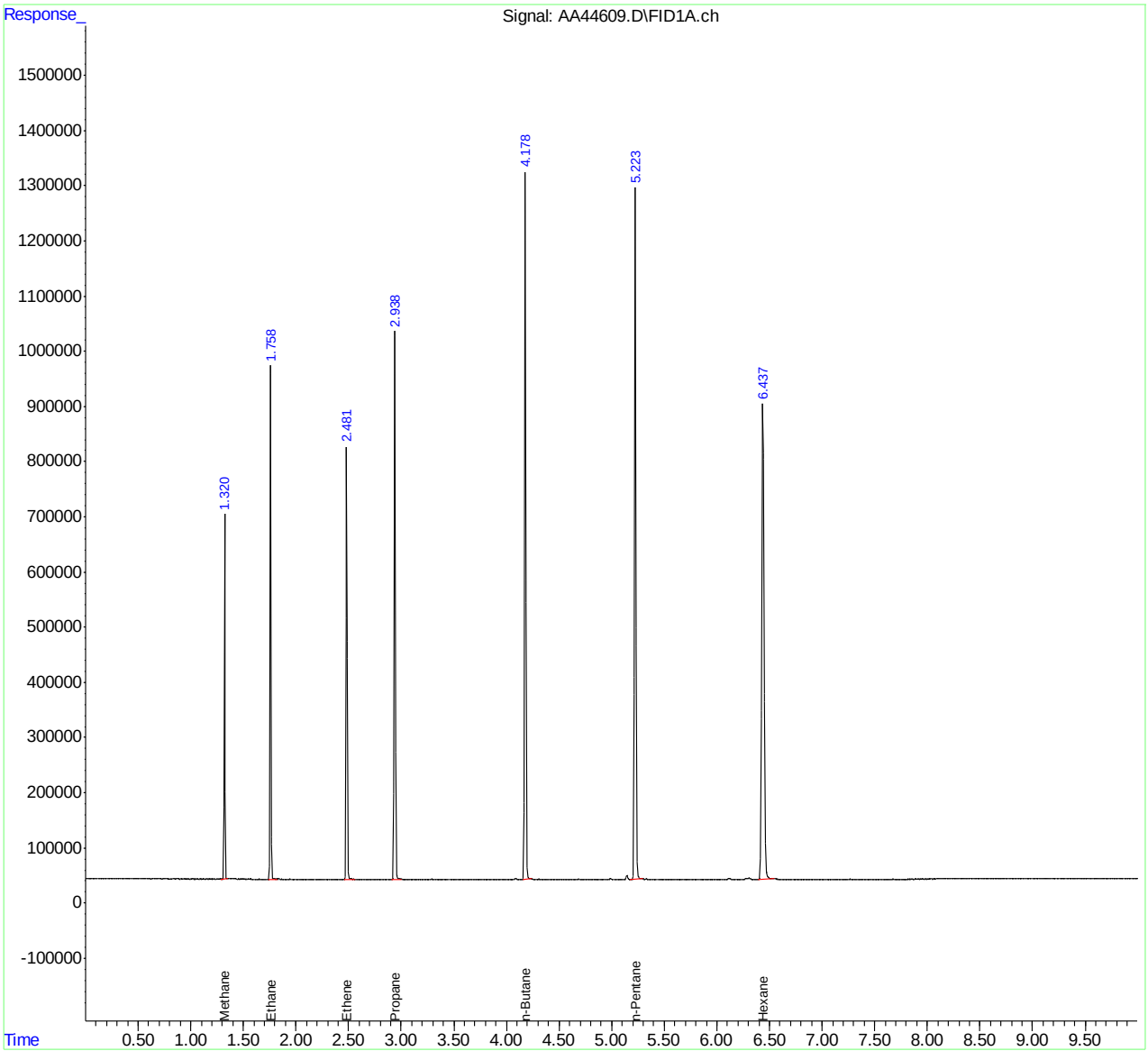
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : AA44609.D
Signal(s) : FID1A.ch
Acq On : 4 Feb 2015 12:59 pm
Operator : THOMASH
Sample : ICV611-100
Misc : GC45339,GAA611,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Feb 04 14:15:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
04/22/19 17:04

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72097.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 6:26 am
Operator : gabriep
Sample : cc611-100
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 06:45:35 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc Units
Target Compounds				
1)	Methane	1.351	2465100	94.047 PPMV m
2)	Ethane	1.776	4598589	95.180 PPMV
3)	Ethene	2.480	4607207	94.927 PPMV
4)	Propane	2.921	6757953	96.053 PPMV
5)	n-Butane	4.148	8045409	82.935 PPMV
6)	n-Pentane	5.206	9035880	74.705 PPMV
7)	Hexane	6.407	9404985	62.435 PPMV

(f)=RT Delta > 1/2 Window (m)=manual int.

9.5.10

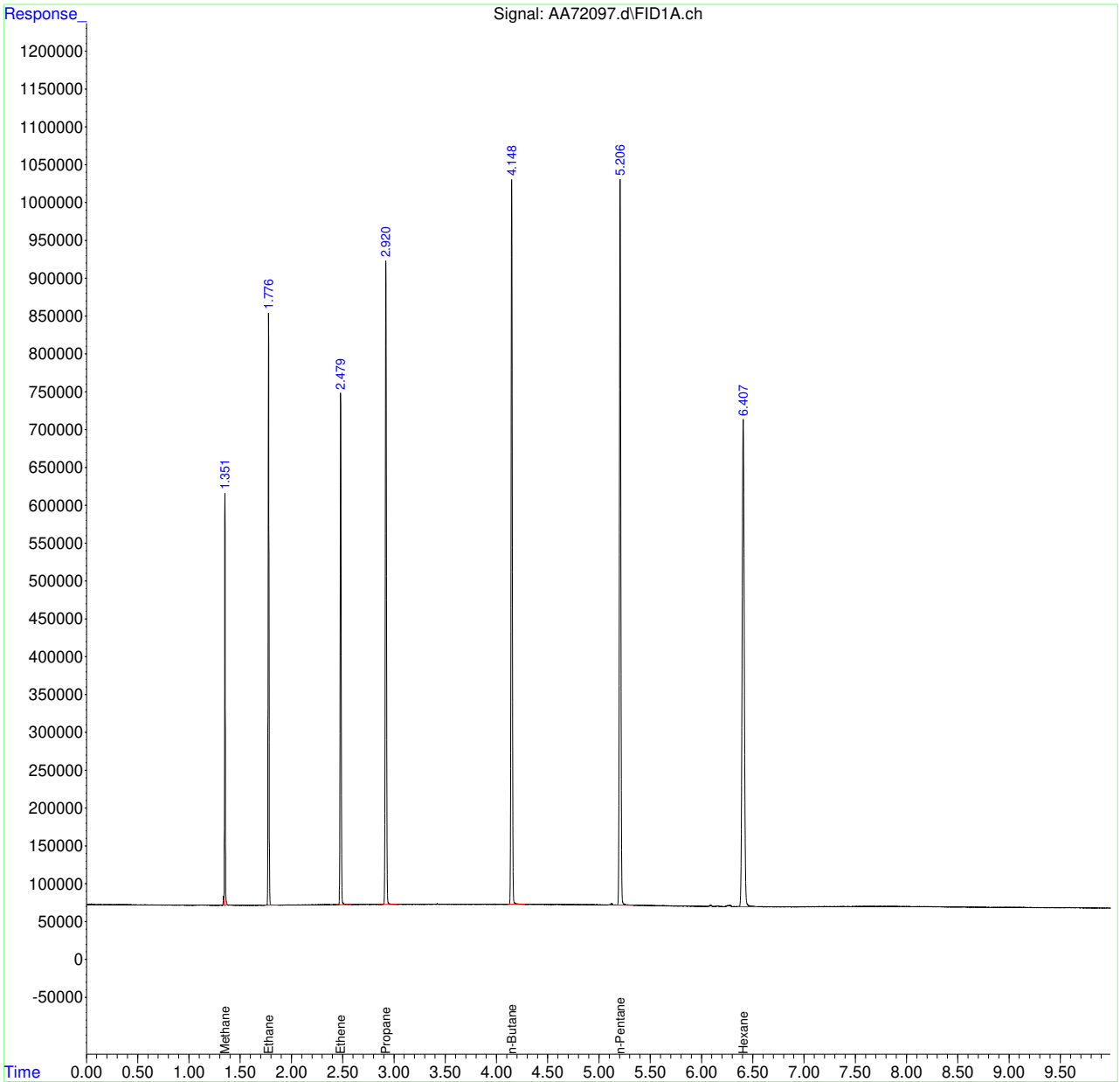
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72097.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 6:26 am
Operator : gabriep
Sample : cc611-100
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 06:45:35 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: GAA1691-CC611
Lab FileID: AA72097.D
Injection Time: 04/20/19 06:26
Method: RSK-175
Analyst approved: 04/20/19 13:50 Gabriella Pericone
Supervisor approved: 04/22/19 17:04 Kanya Veerawat

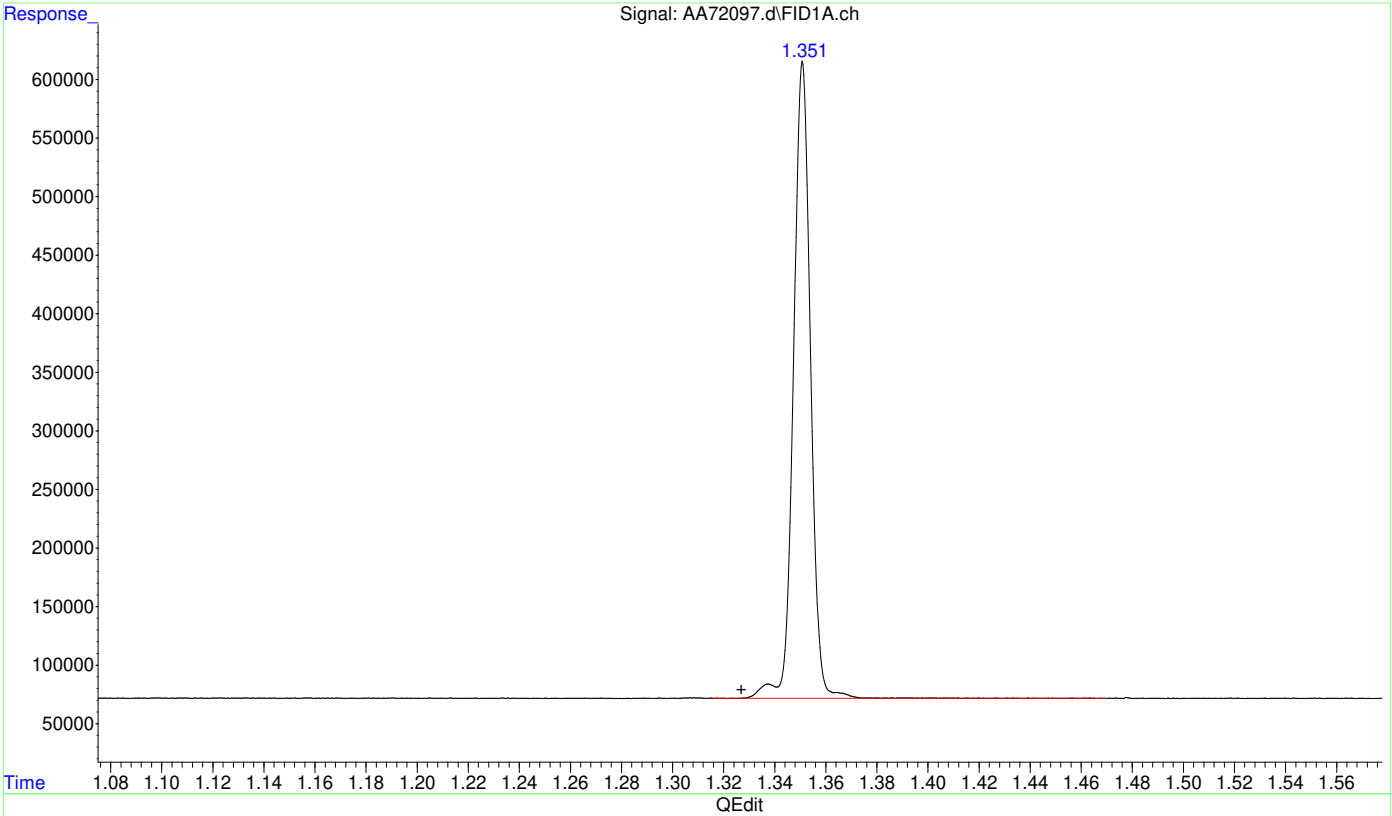
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.35	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72097.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 6:26 am
Operator : gabriep
Sample : cc611-100
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 06:36:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.351min 96.774 PPMV

response 2536598

(+) = Expected Retention Time

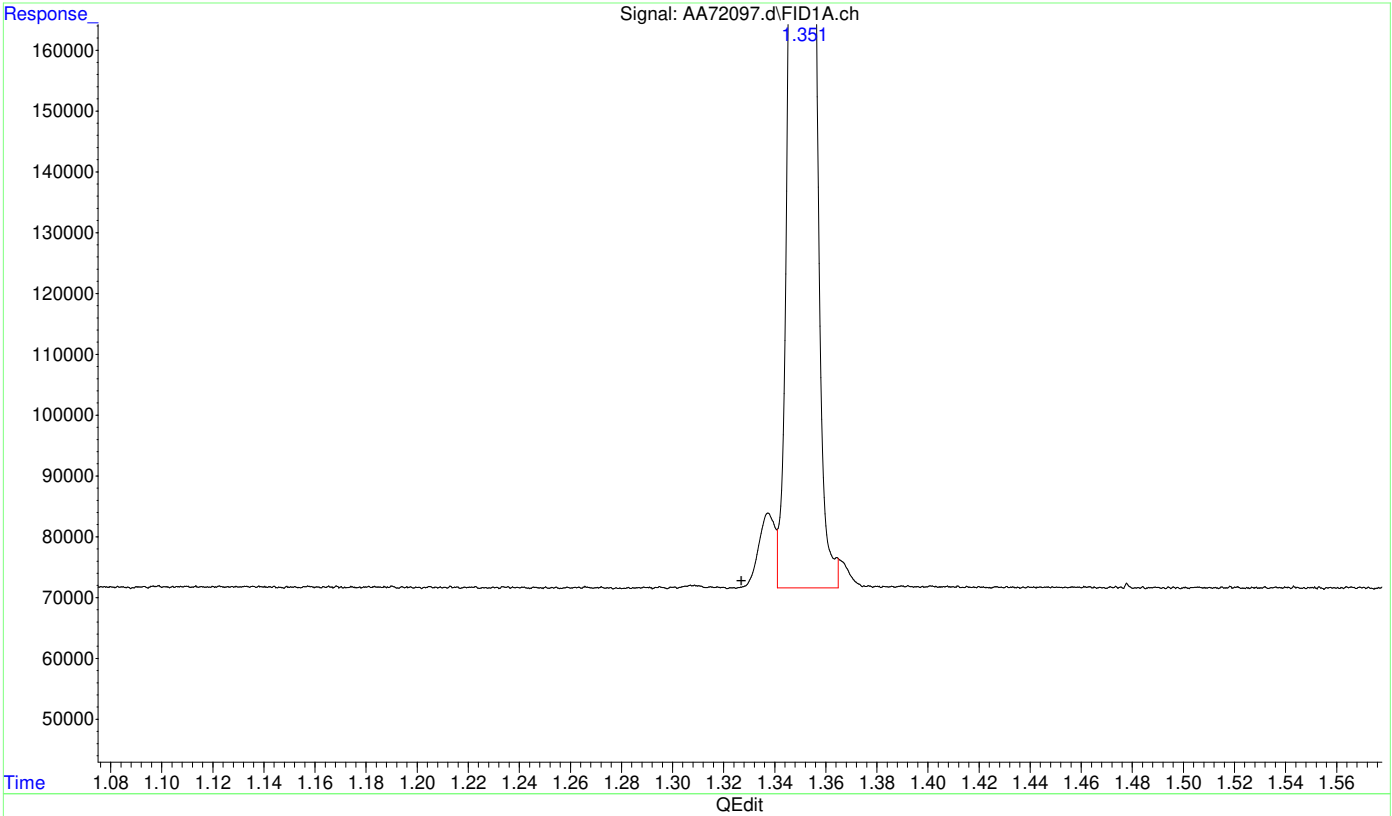
maa611.m Sat Apr 20 06:45:30 2019 GCAA

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72097.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 6:26 am
Operator : gabriep
Sample : cc611-100
Misc : GC54212,GAA1691,,,,,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 06:36:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.351min 94.047 PPMV m

response 2465100

(+) = Expected Retention Time

maa611.m Sat Apr 20 06:45:38 2019 GCAA

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/22/19 17:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72112.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 10:54 am
Operator : gabriep
Sample : cc611-100
Misc : GC54207,GAA1691,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 11:05:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df

	Compound	R.T.	Response	Conc Units
Target Compounds				
1)	Methane	1.349	2270199	86.611 PPMV m
2)	Ethane	1.776	4262423	88.222 PPMV
3)	Ethene	2.479	4264635	87.869 PPMV
4)	Propane	2.919	6319220	89.817 PPMV
5)	n-Butane	4.145	7627505	78.627 PPMV
6)	n-Pentane	5.187	8522470	70.461 PPMV
7)	Hexane	6.375	8589785	57.023 PPMV

(f)=RT Delta > 1/2 Window (m)=manual int.

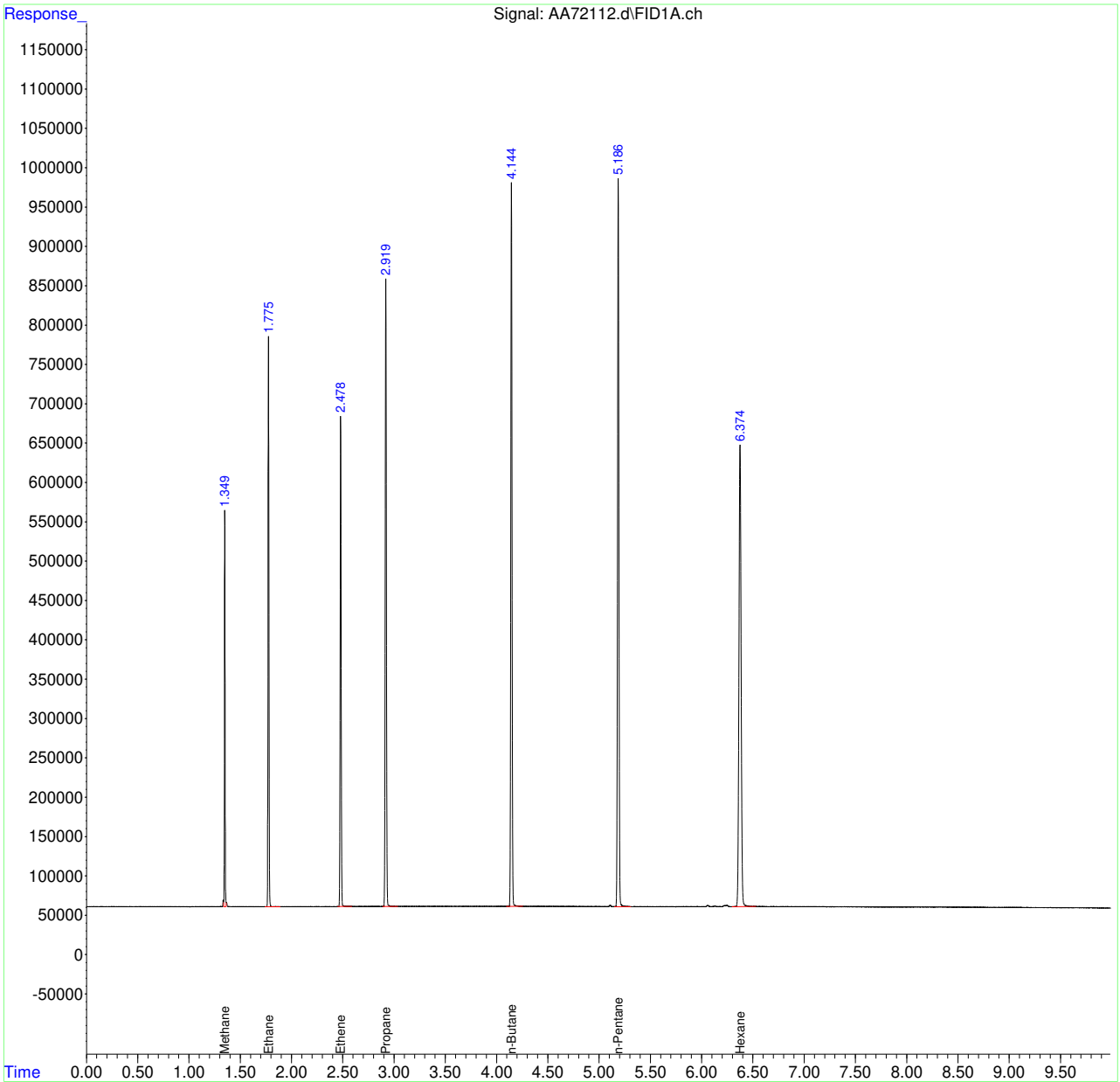
9.5.11
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : AA72112.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 10:54 am
Operator : gabriep
Sample : cc611-100
Misc : GC54207,GAA1691,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 11:05:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



Manual Integration Approval Summary

Sample Number: GAA1691-CC611
Lab FileID: AA72112.D
Injection Time: 04/20/19 10:54
Method: RSK-175
Analyst approved: 04/20/19 13:50 Gabriella Pericone
Supervisor approved: 04/22/19 17:07 Kanya Veerawat

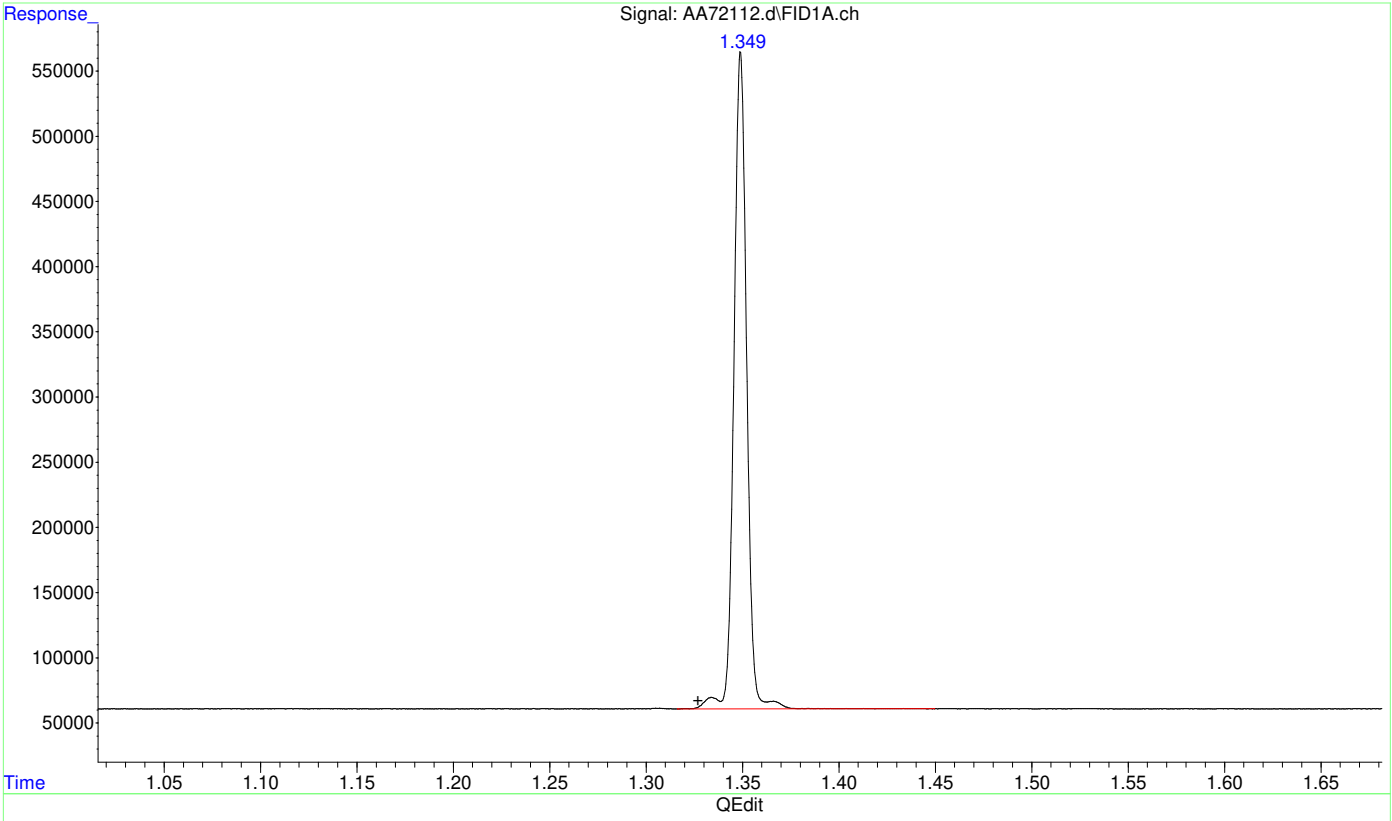
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methane	74-82-8	1	1.35	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72112.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 10:54 am
Operator : gabriep
Sample : cc611-100
Misc : GC54207,GAA1691,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 11:04:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.349min 89.545 PPMV

response 2347106

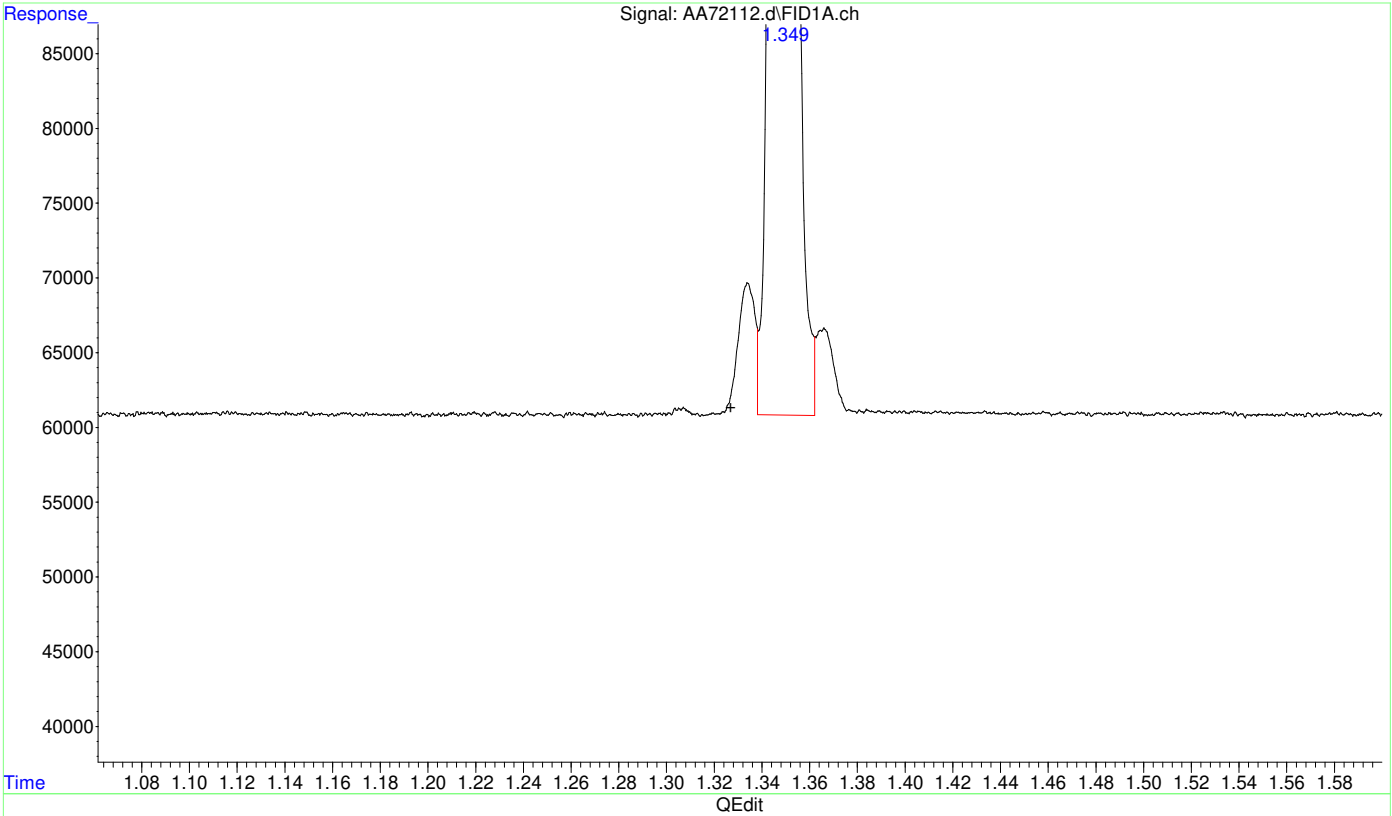
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : AA72112.d
Signal(s) : FID1A.ch
Acq On : 20 Apr 2019 10:54 am
Operator : gabriep
Sample : cc611-100
Misc : GC54207,GAA1691,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 11:04:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MAA611.M
Quant Title : METHOD V8015 DG by GC-FID
QLast Update : Wed Feb 04 12:42:31 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 0.5 ml
Signal Phase : Rt-Alumina BOND/Na2SO4
Signal Info : 50m x 0.53 mm ID x 10um df



(1) Methane

1.349min 86.611 PPMV m

response 2270199

(+) = Expected Retention Time

maa611.m Sat Apr 20 11:05:07 2019 GCAA

SGS

DISSOLVED GASES by GC/FID/TCD
INSTRUMENT LOG

Batch ID: GAA1691
Date: 4/20/19
Analyst :

Standard Data		STD Lot# A536-120		LCS Lot# A57634		Lot#		Lot#	
Components	MW	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)
Methane	16	1000		1000					
Ethane	30	1000		1000					
Ethene	28	1000		1000					
Oxygen	32								
Nitrogen	28								
Hydrogen	2								
CO	28	1000		1000					
CO2	44	4000		4000					

ug/L = (ppmv) x (mw/24.45)

Columns: Rtx Alumina/Na2SO4
Method (Collect.) HAA611.M
Method (Quant) MAA611.M
Initial Cal: GAA611.M
Seq. file: AA190420.S
Therm 577369 6/29/19
PH paper 2011515 exp2115121

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of SGS SOP EQA044.

Supervisor Signature: _____ Date: 4/23/19

R	Data File	Sample ID	Test	VIAL (CC)	Head-space (CC)	Final Sample (CC)	CC Inj.	Temp C	Dil Fact	Status (Data)	Comments	pH* <2
	AA72097	CC611-100					0.05	22		OK		
	AA72098	LCS		42	5	37	0.05	22		OK RR	ethene	
	AA72099	LCS		42	5	37	0.05	22		ok		
	AA72100	heliumblank					0.5	22		RR	CH4?	
	AA72101	helium blank					0.5	22		ok	14777	
	AA72102	MB		42	5	37	0.5	22		RR	CH4?	
	AA72103	MB		42	5	37	0.5	22		OK		
	AA72104	JC86461-3	GC54234 DCMEE	43	5	38	0.5	22	1	OK		✓
	AA72105	JC86461-4	✓	43	5	38	0.5	22	1	OK		✓
	AA72106	JC86512-8	GC54244 DCMEE	44	5	39	0.5	22	1	OK		✓
	AA72107	JC86512-8DUP	✓	44	5	39	0.5	22	1	OK		✓
	AA72108	JC86512-10	✓	43	5	38	0.5	22	1	OK		✓
	AA72109	JC86140-1	GC54207 CH4	43	5	38	0.5 0.005	22	1 100LR	OK/NL		✓
	AA72110	JC86140-1	✓	43	5	38	0.005	22	100	OK/NL		✓
	AA72111	JC86140-1	✓	43	5	38	0.0025	22	200	OK/NL		✓

*If pH> 2, comment on sample result.
All strikeouts must be initialed, dated, and reason applied if not transcription error.

SGS

DISSOLVED GASES by GC/FID/TCD
INSTRUMENT LOG

Batch ID: GAA1691
Date: 4/20/19
Analyst :

Columns: 7ft Alumina / $MgSO_4$
Method (Collect.) MAAG11.M
Method (Quant) MAAG11.M
Initial Cal: GAAG11.M
Seq. file: AA190420.S

Standard Data		STD Lot#AS5420		LCS Lot#AS7634		Lot#		Lot#	
Components	MW	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)
Methane	16	1000		1000					
Ethane	30	1000		1000					
Ethene	28	1000		1000					
Oxygen	32								
Nitrogen	28								
Hydrogen	2								
CO	28	1000		1000					
CO2	44	4000		4000					

ug/L = (ppmv) x (mw/24.45)

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of SGS SOP EQA044.

Supervisor Signature: Date: 4/23/19

R	Data File	Sample ID	Test	VIAL (CC)	Head-space (CC)	Final Sample (CC)	CC Inj.	Temp C	Dil Fact	Status (Data)	Comments	pH* <2
	AA72112	CC611-100					0.05	22		ok		
	AA72113	JC86140-2	GC54207 CH4	43	5	38	0.005	22	100	ok	CH4	✓
	AA72114	JC86140-2	✓	43	5	38	0.0025	22	200	ok		✓
	AA72115	JC86140-3	✓	43	5	38	0.0025	22	200	ok		✓
	AA72116	JC86140-3	✓	43	5	38	0.01	22	50	ok		✓
	AA72117	JC86140-5	✓	43	5	38	0.5	22	1	ok		✓
	AA72118	JC86140-5	✓	43	5	38	0.01	22	50	ok		✓
	AA72119	JC86461-5	GC54234 DCM66	43	5	38	0.5	21	1	ok		✓
	AA72120	JC86461-6	✓	43	5	38	0.5	21	1	ok		✓
	AA72121	JC86461-9	✓	43	5	38	0.5	21	1	ok		✓
	AA72122	JC86461-9DUP	✓	43	5	38	0.5	21	1			✓
	AA72123	JC86461-9DUP	✓	43	5	38	0.5	21	1	NO	DATA does not match	✓
	AA72124	JC86461-10	✓	43	5	38	0.5	21	1	NO	loading	✓
	AA72125	JC86461-10DUP	✓	43	5	38	0.5	21	1	ok/DL		✓
	AA72126	JC86461-10	✓	43	5	38	0.05	21	10	ok/DL		✓

*If pH> 2, comment on sample result.
All strikeouts must be initialed, dated, and reason applied if not transcription error.

SGS

DISSOLVED GASES by GC/FID/TCD
INSTRUMENT LOG

Batch ID: GAA1691
Date: 4/20/19
Analyst :

Standard Data

Components	MW	CCV Lot# AS5426 Conc. (ppmv)	CCV Conc. (ug/l)	LCS Lot# AS5634 Conc. (ppmv)	LCS Conc. (ug/l)	Lot# Conc. (ppmv)	Lot# Conc. (ug/l)	Conc. (ppmv)	Conc. (ug/l)
Methane	16	1000	656	1000					
Ethane	30	1000		1000					
Ethene	28	1000		1000					
Oxygen	32								
Nitrogen	28								
Hydrogen	2								
CO	28	1000		1000					
CO2	44	4000		4000					

Columns: RTX Alumina/Na2SO4
Method (Collect.) MAA611.24
Method (Quant) MAA611.M
Initial Cal: GAA611A ~~MAA611A~~
Seq. file: AA190420.S

ug/L = (ppmv) x (mw/24.45)

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of SGS SOP EQA044.

Supervisor Signature: _____ Date: 4/23/19

R	Data File	Sample ID	Test	VIAL (CC)	Head-space (CC)	Final Sample (CC)	CC Inj.	Temp C	Dil Fact	Status (Data)	Comments	pH* <2
	AA72127	CC611-100					0.05	21		RR	↓	
	AA72128	CC611-100					0.05	21		OK		

4/20/19

*If pH> 2, comment on sample result.
All strikeouts must be initialed, dated, and reason applied if not transcription error.

ACCUTEST

DISSOLVED GASES by GC/FID/TCD
INSTRUMENT LOG

Batch ID: GAA611
Date: 2/4/15
Analyst : [signature]

Standard Data

Components	MW	Std Lot# A360855 Conc. (ppmv)	Conc. (ug/l)	LCS Lot# A363394 Conc. (ppmv)	Conc. (ug/l)	Lot# Conc. (ppmv)	Conc. (ug/l)	Lot# Conc. (ppmv)	Conc. (ug/l)
Methane	16	1000		1000					
Ethane	30	1		1					
Ethene	28								
Oxygen	32								
Nitrogen	28								
Hydrogen	2								
CO	28	1000		1000					
CO2	44	1		4000					

Columns: RT Alumina w/Na2SO4

Method (Collect.) MAA604.M MAA611.M

Method (Quant) MAA604.M MAA611.M

Initial Cal: GAA604 / GAA611

Seq. file: AA150204.S

pH paper lot #: 212713 exp. 5/1/16

thermometer ID: D-58 exp. 2/4/15

ug/L = (ppmv) x (mw/24.45)

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with criteria of Accutest SOP EQA044.

Supervisor Signature: YH **Date:** 2/6/15

R	Data File	Sample ID	Test	VIAL (CC)	Head-space (CC)	Final Sample (CC)	CC Inj.	Temp C	Dil Fact	Status (Data)	Comments	pH* <2
	AA44598	CC604-100					0.05	22		RR	MAA604.M	
	AA44599	CC604-100					0.05			NG	↓	
	AA44600	IC611-1.0					0.5mL			RR	MAA611.M	
	AA44601	IC611-2.0					1mL			OK		
	AA44602	IC611-10					5mL			OK		
	AA44603	IC611-20					0.01			OK		
	AA44604	IC611-100					0.05			OK		
	AA44605	IC611-200					0.1			OK		
	AA44606	IC611-500					0.25			OK		
	AA44607	IC611-1000					0.5			OK		
	AA44608	IC611-1.0					0.5mL			OK		
	AA44609	ICV611-100					0.05	↓		OK	↓	
											TH 2/4/15	

*If pH> 2, comment on sample result.

Form: OR008.02
Rev. Date: 10/21/02

97

9.6.2 9

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:36	MA46555-STD1	1		STDA
10:41	MA46555-STD2	1		STDB
10:47	ZZZZZZ	1		
10:52	ZZZZZZ	1		
10:57	MA46555-ICV1	1		
11:02	MA46555-ICB1	1		
11:07	ZZZZZZ	1		
11:13	MA46555-ICCV1	1		
11:22	MA46555-CCB1	1		
11:27	MA46555-CRI1	1		
11:32	MA46555-CRID1	1		
11:37	MA46555-ICSA1	1		
11:42	MA46555-ICSAB1	1		
11:48	MA46555-HSTD1	1		
11:54	MA46555-HSTD2	1		
11:59	ZZZZZZ	1		
12:05	ZZZZZZ	1		
12:10	ZZZZZZ	1		
12:15	MA46555-CCV1	1		
12:20	MA46555-CCB2	1		
12:25	ZZZZZZ	1		
12:30	ZZZZZZ	1		
12:35	ZZZZZZ	1		
12:40	ZZZZZZ	5		
12:45	ZZZZZZ	5		
12:50	ZZZZZZ	5		
12:56	ZZZZZZ	25		
13:01	ZZZZZZ	1		
13:06	ZZZZZZ	1		
13:11	ZZZZZZ	1		
13:16	ZZZZZZ	1		
13:21	ZZZZZZ	1		
13:26	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:31	ZZZZZZ	1		
13:36	ZZZZZZ	1		
13:42	ZZZZZZ	5		
13:47	ZZZZZZ	1		
13:52	ZZZZZZ	2		
13:57	ZZZZZZ	25		
14:02	ZZZZZZ	5		
14:07	MA46555-CCV2	1		
14:12	MA46555-CCB3	1		
14:17	ZZZZZZ	5		
14:22	ZZZZZZ	1		
14:27	ZZZZZZ	2		
14:33	MP14334-MB1	1		
14:38	MP14334-B1	1		
14:43	MP14334-B2	1		
14:48	MP14334-S1	1		
14:53	MP14334-S2	1		
14:58	JC86402-9A	1		(sample used for QC only; not part of login JC86512)
15:03	ZZZZZZ	1		
15:08	MA46555-CCV3	1		
15:17	MA46555-CCB4	1		
15:22	MP14334-SD1	5		rerun for Zn
15:27	ZZZZZZ	1		
15:33	JC86512-8	1		
15:38	JC86512-10	1		
---------->	Last reportable sample/prep for job JC86512			
15:43	ZZZZZZ	1		
15:48	ZZZZZZ	200		
15:53	ZZZZZZ	50		
15:58	ZZZZZZ	1		
16:03	MP14423-MB1	1		
16:08	MA46555-CCV4	1		
16:13	MA46555-CCB5	1		
16:18	MP14423-B1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	16:23	ZZZZZZ	1		
	16:29	ZZZZZZ	1		
	16:34	MA46555-ICSA2	1		
	16:39	MA46555-ICSAB2	1		
	16:44	MP14421-B1	1		
	16:49	MP14421-MB1	1		
	16:54	MP14421-MB2	1		
	17:00	MP14421-B2	1		
	17:05	MA46555-CCV5	1		
	17:10	MA46555-CCB6	1		
---------->		Last reportable CCB for job JC86512			
	17:15	MP14421-S1	100		
	17:20	MP14421-S2	100		
	17:25	JC86634-1	100		(sample used for QC only; not part of login JC86512)
	17:30	MP14421-SD1	500		
	17:35	ZZZZZZ	100		
	17:40	ZZZZZZ	100		
	17:45	ZZZZZZ	100		
	17:53	ZZZZZZ	1		
	17:58	ZZZZZZ	1		
	18:03	MA46555-CCV6	1		
	18:08	MA46555-CCB7	1		
	18:13	MA46555-CCV7	1		
	18:18	MA46555-CCB8	1		
	18:23	ZZZZZZ	100		
	18:28	ZZZZZZ	100		
	18:33	ZZZZZZ	100		
	18:38	ZZZZZZ	100		
	18:43	ZZZZZZ	100		
	18:48	ZZZZZZ	100		
	18:53	MP14455-B1	1		
	18:58	MP14455-MB1	1		
	19:04	MP14455-S1	1		
	19:09	MA46555-CCV8	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:14	MA46555-CCB9	1		
19:19	MP14455-S2	1		
19:24	JC86049-1	1		(sample used for QC only; not part of login JC86512)
19:30	MP14455-SD1	5		
19:35	ZZZZZZ	1		
19:40	ZZZZZZ	1		
19:45	ZZZZZZ	1		
19:50	MP14303-B2	1		
19:55	ZZZZZZ	1		
20:00	ZZZZZZ	1		
20:06	MA46555-CCV9	1		
20:11	MA46555-CCB10	1		
20:16	ZZZZZZ	1		
20:21	ZZZZZZ	1		
20:26	ZZZZZZ	1		
20:32	ZZZZZZ	1		
20:37	ZZZZZZ	1		
20:42	ZZZZZZ	1		
20:47	ZZZZZZ	1		
20:52	ZZZZZZ	1		
20:57	ZZZZZZ	1		
21:03	ZZZZZZ	1		
21:08	ZZZZZZ	1		
21:13	ZZZZZZ	1		
21:18	MA46555-CCV10	1		
21:23	MA46555-CCB11	1		
21:28	MP14421-S1	10		
21:33	MP14421-S2	10		
21:39	ZZZZZZ	10		
21:43	MP14421-SD1	50		
21:49	ZZZZZZ	1000		
21:53	ZZZZZZ	10		
21:59	ZZZZZZ	1000		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
22:04	ZZZZZZ	5		
22:09	MA46555-CCV11	1		
22:14	MA46555-CCB12	1		
22:19	MP14332-MB2	1		
22:24	MP14332-B2	1		
22:29	MP14332-S1	1		
22:34	MP14332-S2	1		
22:39	JC86445-3	1		(sample used for QC only; not part of login JC86512)
22:44	MP14332-SD1	5		
22:49	ZZZZZZ	1		
22:54	ZZZZZZ	1		
22:59	ZZZZZZ	1		
23:04	MA46555-CCV12	1		
23:09	MA46555-CCB13	1		
23:15	ZZZZZZ	1		
23:20	ZZZZZZ	1		
23:25	ZZZZZZ	1		
23:30	ZZZZZZ	1		
23:35	ZZZZZZ	1		
23:41	ZZZZZZ	1		
23:46	MP14417-MB1	5		
23:51	MP14417-B1	5		
23:56	MP14417-S1	5		
00:01	MP14417-S2	5		
00:06	MA46555-CCV13	1		
00:11	MA46555-CCB14	1		
00:17	JC86545-5A	5		(sample used for QC only; not part of login JC86512)
00:22	MP14417-SD1	25		
00:27	ZZZZZZ	5		
00:32	ZZZZZZ	5		
00:37	ZZZZZZ	5		
00:42	ZZZZZZ	5		
00:48	ZZZZZZ	5		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
00:53	ZZZZZZ	5		
00:58	ZZZZZZ	5		
01:03	ZZZZZZ	5		
01:09	MA46555-CCV14	1		
01:14	MA46555-CCB15	1		
01:19	ZZZZZZ	5		
01:24	ZZZZZZ	5		
01:29	ZZZZZZ	5		
01:34	ZZZZZZ	5		
01:40	ZZZZZZ	5		
01:45	ZZZZZZ	5		
01:50	ZZZZZZ	5		
01:55	ZZZZZZ	5		
02:00	MP14318-MB1	1		
02:05	MP14318-B1	1		
02:10	MA46555-CCV15	1		
02:15	MA46555-CCB16	1		
02:20	MP14318-S1	1		Needs post spike for Cu
02:26	MP14318-S2	1		
02:31	JC86390-6	1		(sample used for QC only; not part of login JC86512)
02:36	MP14318-SD1	5		
02:41	ZZZZZZ	1		
02:46	ZZZZZZ	1		
02:51	ZZZZZZ	1		
02:56	ZZZZZZ	1		
03:01	ZZZZZZ	1		
03:06	ZZZZZZ	1		
03:11	MA46555-CCV16	1		
03:16	MA46555-CCB17	1		
03:21	ZZZZZZ	1		
03:26	ZZZZZZ	1		
03:31	ZZZZZZ	1		
03:36	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
03:41	ZZZZZZ	1		
03:46	ZZZZZZ	1		
03:51	ZZZZZZ	1		
03:56	ZZZZZZ	1		
04:01	ZZZZZZ	1		
04:06	ZZZZZZ	1		
04:11	MA46555-CCV17	1		
04:16	MA46555-CCB18	1		
04:21	ZZZZZZ	1		
04:27	ZZZZZZ	1		
04:31	ZZZZZZ	1		
04:37	MP14378-MB1	1		
04:42	MP14378-B1	1		
04:47	MP14378-S1	1		
04:52	MP14378-S2	1		
04:57	JC86493-2F	1		(sample used for QC only; not part of login JC86512)
05:02	MA46555-CCV18	1		
05:07	MA46555-CCB19	1		
05:12	MP14378-SD1	5		
05:18	ZZZZZZ	1		
05:23	ZZZZZZ	1		
05:28	ZZZZZZ	1		
05:33	ZZZZZZ	1		
05:38	ZZZZZZ	1		
05:44	ZZZZZZ	1		
05:49	ZZZZZZ	1		
05:54	ZZZZZZ	1		
05:59	MA46555-CCV19	1		
06:04	MA46555-CCB20	1		
06:09	ZZZZZZ	1		
06:14	ZZZZZZ	1		
06:21	ZZZZZZ	1		
06:26	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
06:31	ZZZZZZ	1		
06:36	ZZZZZZ	1		
06:41	ZZZZZZ	1		
06:47	ZZZZZZ	1		
06:52	MA46555-CCV20	1		
06:57	MA46555-CCB21	1		
07:02	ZZZZZZ	1		
07:07	ZZZZZZ	1		
07:13	MP14378-MB2	1		CCV out
07:18	MP14378-B2	1		CCV out
07:23	MA46555-CCV21	1		
07:28	MA46555-CCB22	1		
07:35	JC86634-1	10		(sample used for QC only; not part of login JC86512)
07:44	MA46555-CCV22	1		
07:54	MA46555-CCB23	1		

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn
10:47	ZZZZZZ	1	
10:52	ZZZZZZ	1	
10:57	MA46555-ICV1	1	X
11:02	MA46555-ICB1	1	X
11:07	ZZZZZZ	1	
11:13	MA46555-ICCV1	1	X
11:22	MA46555-CCB1	1	X
11:27	MA46555-CRI1	1	X
11:32	MA46555-CRID1	1	X
11:37	MA46555-ICSA1	1	X
11:42	MA46555-ICSAB1	1	X
11:48	MA46555-HSTD1	1	X
11:54	MA46555-HSTD2	1	X
11:59	ZZZZZZ	1	
12:05	ZZZZZZ	1	
12:10	ZZZZZZ	1	
12:15	MA46555-CCV1	1	X
12:20	MA46555-CCB2	1	X
12:25	ZZZZZZ	1	
12:30	ZZZZZZ	1	
12:35	ZZZZZZ	1	
12:40	ZZZZZZ	5	
12:45	ZZZZZZ	5	
12:50	ZZZZZZ	5	
12:56	ZZZZZZ	25	
13:01	ZZZZZZ	1	
13:06	ZZZZZZ	1	
13:11	ZZZZZZ	1	
13:16	ZZZZZZ	1	
13:21	ZZZZZZ	1	
13:26	ZZZZZZ	1	
13:31	ZZZZZZ	1	
13:36	ZZZZZZ	1	
		Element:	Mn

REPORTED ELEMENTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
13:42	ZZZZZZ	5		
13:47	ZZZZZZ	1		
13:52	ZZZZZZ	2		
13:57	ZZZZZZ	25		
14:02	ZZZZZZ	5		
14:07	MA46555-CCV2	1	X	
14:12	MA46555-CCB3	1	X	
14:17	ZZZZZZ	5		
14:22	ZZZZZZ	1		
14:27	ZZZZZZ	2		
14:33	MP14334-MB1	1	X	
14:38	MP14334-B1	1	X	
14:43	MP14334-B2	1	X	
14:48	MP14334-S1	1	X	
14:53	MP14334-S2	1	X	
14:58	JC86402-9A	1		(a)
15:03	ZZZZZZ	1		
15:08	MA46555-CCV3	1	X	
15:17	MA46555-CCB4	1	X	
15:22	MP14334-SD1	5	X	
15:27	ZZZZZZ	1		
15:33	JC86512-8	1	X	
15:38	JC86512-10	1	X	
15:43	ZZZZZZ	1		
15:48	ZZZZZZ	200		
15:53	ZZZZZZ	50		
15:58	ZZZZZZ	1		
16:03	MP14423-MB1	1		
16:08	MA46555-CCV4	1	X	
16:13	MA46555-CCB5	1	X	
16:18	MP14423-B1	1		
16:23	ZZZZZZ	1		
16:29	ZZZZZZ	1		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn
16:34	MA46555-ICSA2	1	X
16:39	MA46555-ICSAB2	1	X
16:44	MP14421-B1	1	
16:49	MP14421-MB1	1	
16:54	MP14421-MB2	1	
17:00	MP14421-B2	1	
17:05	MA46555-CCV5	1	X
17:10	MA46555-CCB6	1	X
17:15	MP14421-S1	100	
17:20	MP14421-S2	100	
17:25	JC86634-1	100	
17:30	MP14421-SD1	500	
17:35	ZZZZZZ	100	
17:40	ZZZZZZ	100	
17:45	ZZZZZZ	100	
17:53	ZZZZZZ	1	
17:58	ZZZZZZ	1	
18:03	MA46555-CCV6	1	X
18:08	MA46555-CCB7	1	X
18:13	MA46555-CCV7	1	X
18:18	MA46555-CCB8	1	X
18:23	ZZZZZZ	100	
18:28	ZZZZZZ	100	
18:33	ZZZZZZ	100	
18:38	ZZZZZZ	100	
18:43	ZZZZZZ	100	
18:48	ZZZZZZ	100	
18:53	MP14455-B1	1	X
18:58	MP14455-MB1	1	X
19:04	MP14455-S1	1	X
19:09	MA46555-CCV8	1	X
19:14	MA46555-CCB9	1	X
19:19	MP14455-S2	1	X
		Element:	Mn

REPORTED ELEMENTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
19:24	JC86049-1	1		(a)
19:30	MP14455-SD1	5	X	
19:35	ZZZZZZ	1		
19:40	ZZZZZZ	1		
19:45	ZZZZZZ	1		
19:50	MP14303-B2	1	X	
19:55	ZZZZZZ	1		
20:00	ZZZZZZ	1		
20:06	MA46555-CCV9	1	X	
20:11	MA46555-CCB10	1	X	
20:16	ZZZZZZ	1		
20:21	ZZZZZZ	1		
20:26	ZZZZZZ	1		
20:32	ZZZZZZ	1		
20:37	ZZZZZZ	1		
20:42	ZZZZZZ	1		
20:47	ZZZZZZ	1		
20:52	ZZZZZZ	1		
20:57	ZZZZZZ	1		
21:03	ZZZZZZ	1		
21:08	ZZZZZZ	1		
21:13	ZZZZZZ	1		
21:18	MA46555-CCV10	1	X	
21:23	MA46555-CCB11	1	X	
21:28	MP14421-S1	10		
21:33	MP14421-S2	10		
21:39	ZZZZZZ	10		
21:43	MP14421-SD1	50		
21:49	ZZZZZZ	1000		
21:53	ZZZZZZ	10		
21:59	ZZZZZZ	1000		
22:04	ZZZZZZ	5		
22:09	MA46555-CCV11	1	X	
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Dilution	Element: Mn	
22:14	MA46555-CCB12	1	X	
22:19	MP14332-MB2	1		
22:24	MP14332-B2	1		
22:29	MP14332-S1	1		
22:34	MP14332-S2	1		
22:39	JC86445-3	1		(a)
22:44	MP14332-SD1	5		
22:49	ZZZZZZ	1		
22:54	ZZZZZZ	1		
22:59	ZZZZZZ	1		
23:04	MA46555-CCV12	1	X	
23:09	MA46555-CCB13	1	X	
23:15	ZZZZZZ	1		
23:20	ZZZZZZ	1		
23:25	ZZZZZZ	1		
23:30	ZZZZZZ	1		
23:35	ZZZZZZ	1		
23:41	ZZZZZZ	1		
23:46	MP14417-MB1	5		
23:51	MP14417-B1	5		
23:56	MP14417-S1	5		
00:01	MP14417-S2	5		
00:06	MA46555-CCV13	1	X	
00:11	MA46555-CCB14	1	X	
00:17	JC86545-5A	5		(a)
00:22	MP14417-SD1	25		
00:27	ZZZZZZ	5		
00:32	ZZZZZZ	5		
00:37	ZZZZZZ	5		
00:42	ZZZZZZ	5		
00:48	ZZZZZZ	5		
00:53	ZZZZZZ	5		
00:58	ZZZZZZ	5		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
01:03	ZZZZZZ	5		
01:09	MA46555-CCV14	1	X	
01:14	MA46555-CCB15	1	X	
01:19	ZZZZZZ	5		
01:24	ZZZZZZ	5		
01:29	ZZZZZZ	5		
01:34	ZZZZZZ	5		
01:40	ZZZZZZ	5		
01:45	ZZZZZZ	5		
01:50	ZZZZZZ	5		
01:55	ZZZZZZ	5		
02:00	MP14318-MB1	1		
02:05	MP14318-B1	1		
02:10	MA46555-CCV15	1	X	
02:15	MA46555-CCB16	1	X	
02:20	MP14318-S1	1		
02:26	MP14318-S2	1		
02:31	JC86390-6	1		(a)
02:36	MP14318-SD1	5		
02:41	ZZZZZZ	1		
02:46	ZZZZZZ	1		
02:51	ZZZZZZ	1		
02:56	ZZZZZZ	1		
03:01	ZZZZZZ	1		
03:06	ZZZZZZ	1		
03:11	MA46555-CCV16	1	X	
03:16	MA46555-CCB17	1	X	
03:21	ZZZZZZ	1		
03:26	ZZZZZZ	1		
03:31	ZZZZZZ	1		
03:36	ZZZZZZ	1		
03:41	ZZZZZZ	1		
03:46	ZZZZZZ	1		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
03:51	ZZZZZZ	1		
03:56	ZZZZZZ	1		
04:01	ZZZZZZ	1		
04:06	ZZZZZZ	1		
04:11	MA46555-CCV17	1	X	
04:16	MA46555-CCB18	1	X	
04:21	ZZZZZZ	1		
04:27	ZZZZZZ	1		
04:31	ZZZZZZ	1		
04:37	MP14378-MB1	1	X	
04:42	MP14378-B1	1	X	
04:47	MP14378-S1	1	X	
04:52	MP14378-S2	1	X	
04:57	JC86493-2F	1	X	(a)
05:02	MA46555-CCV18	1	X	
05:07	MA46555-CCB19	1	X	
05:12	MP14378-SD1	5	X	
05:18	ZZZZZZ	1		
05:23	ZZZZZZ	1		
05:28	ZZZZZZ	1		
05:33	ZZZZZZ	1		
05:38	ZZZZZZ	1		
05:44	ZZZZZZ	1		
05:49	ZZZZZZ	1		
05:54	ZZZZZZ	1		
05:59	MA46555-CCV19	1	X	
06:04	MA46555-CCB20	1	X	
06:09	ZZZZZZ	1		
06:14	ZZZZZZ	1		
06:21	ZZZZZZ	1		
06:26	ZZZZZZ	1		
06:31	ZZZZZZ	1		
06:36	ZZZZZZ	1		
		Element:	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Element: Dilution	Mn	
06:41	ZZZZZZ	1		
06:47	ZZZZZZ	1		
06:52	MA46555-CCV20	1	X	
06:57	MA46555-CCB21	1	X	
07:02	ZZZZZZ	1		
07:07	ZZZZZZ	1		
07:13	MP14378-MB2	1	X	
07:18	MP14378-B2	1	X	
07:23	MA46555-CCV21	1	X	
07:28	MA46555-CCB22	1	X	
07:35	JC86634-1	10		(a)
07:44	MA46555-CCV22	1	X	
07:54	MA46555-CCB23	1	X	

(a) Sample used for QC only; not part of login JC86512.

Element: Mn

INTERNAL STANDARD SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:36	MA46555-STD1	6584 R	145770 R	26527 R	10091 R
10:41	MA46555-STD2	6141	134050	25896	8889
10:47	ZZZZZZ	6356	139280	26503	9195
10:52	ZZZZZZ	6601	147280	26702	10112
10:57	MA46555-ICV1	6325	137350	25690	9150
11:02	MA46555-ICB1	6592	142110	26329	10083
11:07	ZZZZZZ	6494	143840	26388	9722
11:13	MA46555-ICCV1	6338	138870	26209	9168
11:22	MA46555-CCB1	6576	146780	26259	10064
11:27	MA46555-CRI1	6499	143760	26339	9730
11:32	MA46555-CRID1	6578	145260	26415	10000
11:37	MA46555-ICSA1	5864	125600	25248	8324
11:42	MA46555-ICSAB1	5879	126430	25354	8372
11:48	MA46555-HSTD1	6338	141080	26323	9733
11:54	MA46555-HSTD2	5870	126850	25036	8270
11:59	ZZZZZZ	6430	142310	26402	9950
12:05	ZZZZZZ	6401	146800	26449	10049
12:10	ZZZZZZ	6607	145710	26506	10076
12:15	MA46555-CCV1	6293	137940	25991	9093
12:20	MA46555-CCB2	6600	146690	26459	10089
12:25	ZZZZZZ	6541	145100	26270	9944
12:30	ZZZZZZ	6747	150310	27248	10405
12:35	ZZZZZZ	6445	141880	26440	9430
12:40	ZZZZZZ	6143	135790	25805	8751
12:45	ZZZZZZ	6135	136320	25922	8759
12:50	ZZZZZZ	6127	136930	25878	8773
12:56	ZZZZZZ	6400	142670	26105	9437
13:01	ZZZZZZ	6671	148520	27002	10186
13:06	ZZZZZZ	6399	140910	26406	9330
13:11	ZZZZZZ	13787 !	279990 !	43378 !	20250 !
13:16	ZZZZZZ	6504	144510	26094	9947
13:21	ZZZZZZ	6492	143750	26046	9873
13:26	ZZZZZZ	6484	141890	27135	9111

INTERNAL STANDARD SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:31	ZZZZZZ	6551	142670	27418	9172
13:36	ZZZZZZ	6691	148500	27266	9498
13:42	ZZZZZZ	6646	144990	26944	9824
13:47	ZZZZZZ	6558	144080	27515	9232
13:52	ZZZZZZ	6753	147710	27296	9703
13:57	ZZZZZZ	6623	146000	26461	9939
14:02	ZZZZZZ	6570	143980	26316	9715
14:07	MA46555-CCV2	6257	137330	25726	9037
14:12	MA46555-CCB3	6512	145330	25893	9948
14:17	ZZZZZZ	6594	144450	26565	9764
14:22	ZZZZZZ	6610	147360	26570	10042
14:27	ZZZZZZ	5926	131470	25567	8249
14:33	MP14334-MB1	6595	147230	26525	10019
14:38	MP14334-B1	6421	141730	26382	9313
14:43	MP14334-B2	6433	141930	26280	9331
14:48	MP14334-S1	6252	139350	26440	8873
14:53	MP14334-S2	6245	136970	26005	8868
14:58	JC86402-9A	6320	139920	26071	9037
15:03	ZZZZZZ	13839 !	277360 !	43321 !	20247 !
15:08	MA46555-CCV3	5982	130930	24541	8679
15:17	MA46555-CCB4	6516	144930	25925	9942
15:22	MP14334-SD1	6449	142550	26083	9548
15:27	ZZZZZZ	6598	147040	26433	10033
15:33	JC86512-8	6327	140680	26153	9214
15:38	JC86512-10	6290	139570	26084	9130
15:43	ZZZZZZ	6558	146280	26389	9970
15:48	ZZZZZZ	6420	142190	25687	9520
15:53	ZZZZZZ	6369	140220	25719	9367
15:58	ZZZZZZ	6239	138600	26208	8929
16:03	MP14423-MB1	6711	149390	26787	10343
16:08	MA46555-CCV4	6275	137010	25737	9052
16:13	MA46555-CCB5	6499	144610	26055	9929
16:18	MP14423-B1	6471	143070	26254	9467

INTERNAL STANDARD SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:23	ZZZZZZ	6606	147480	26208	10188
16:29	ZZZZZZ	6537	148400	26992	10096
16:34	MA46555-ICSA2	5752	124000	24752	8177
16:39	MA46555-ICSAB2	5790	125300	24853	8250
16:44	MP14421-B1	6375	140790	26062	9329
16:49	MP14421-MB1	6758	147700	26273	10373
16:54	MP14421-MB2	6696	148020	26490	10265
17:00	MP14421-B2	6463	142560	26396	9441
17:05	MA46555-CCV5	6214	135870	25438	8955
17:10	MA46555-CCB6	6495	143400	25689	9903
17:15	MP14421-S1	No results reported for the elements associated with this internal standard.			
17:20	MP14421-S2	No results reported for the elements associated with this internal standard.			
17:25	JC86634-1	No results reported for the elements associated with this internal standard.			
17:30	MP14421-SD1	No results reported for the elements associated with this internal standard.			
17:35	ZZZZZZ	6492	142880	25686	9805
17:40	ZZZZZZ	6502	142830	25612	9757
17:45	ZZZZZZ	6464	142450	25513	9720
17:53	ZZZZZZ	6465	142850	26236	9467
17:58	ZZZZZZ	6550	144740	26124	9651
18:03	MA46555-CCV6	6213	136720	25364	8942
18:08	MA46555-CCB7	6521	144910	25487	9912
18:13	MA46555-CCV7	6238	136840	25375	8963
18:18	MA46555-CCB8	6495	143610	25606	9874
18:23	ZZZZZZ	6560	146620	26225	9834
18:28	ZZZZZZ	6492	144310	25685	9702
18:33	ZZZZZZ	6537	144330	25832	9847
18:38	ZZZZZZ	6495	144280	25914	9759
18:43	ZZZZZZ	6539	144860	25832	9820
18:48	ZZZZZZ	6573	145910	25961	9863
18:53	MP14455-B1	6482	142770	26050	9425
18:58	MP14455-MB1	6683	149110	26448	10269
19:04	MP14455-S1	6097	134400	25522	8582
19:09	MA46555-CCV8	6220	136400	25062	8936

INTERNAL STANDARD SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
19:14	MA46555-CCB9	6422	144250	25508	9772
19:19	MP14455-S2	6109	133920	25409	8586
19:24	JC86049-1	6103	135590	25352	8657
19:30	MP14455-SD1	6339	140460	25531	9271
19:35	ZZZZZZ	6040	135310	25339	8586
19:40	ZZZZZZ	6094	133540	25540	8549
19:45	ZZZZZZ	6552	144410	26116	9798
19:50	MP14303-B2	6433	141820	26290	9273
19:55	ZZZZZZ	6602	146060	26745	9562
20:00	ZZZZZZ	No results reported for the elements associated with this internal standard.			
20:06	MA46555-CCV9	6293	138100	25718	9010
20:11	MA46555-CCB10	6641	148080	26359	10039
20:16	ZZZZZZ	6621	147680	26269	10034
20:21	ZZZZZZ	6591	146490	26016	9929
20:26	ZZZZZZ	6685	149250	26737	10067
20:32	ZZZZZZ	6645	148710	26302	10023
20:37	ZZZZZZ	6732	151260	26761	10156
20:42	ZZZZZZ	6672	147970	26187	10034
20:47	ZZZZZZ	6627	148240	26290	9992
20:52	ZZZZZZ	6640	146870	26187	10047
20:57	ZZZZZZ	6628	148650	26276	10085
21:03	ZZZZZZ	6583	133690	26811	9086
21:08	ZZZZZZ	6676	149390	26639	10190
21:13	ZZZZZZ	6141	137570	25582	8770
21:18	MA46555-CCV10	6391	140500	25845	9153
21:23	MA46555-CCB11	6644	148750	26357	10068
21:28	MP14421-S1	6395	141270	26209	9283
21:33	MP14421-S2	6357	141320	26397	9241
21:39	ZZZZZZ	6342	141520	25947	9251
21:43	MP14421-SD1	6415	140540	25044	9551
21:49	ZZZZZZ	6568	145610	25260	9981
21:53	ZZZZZZ	6264	137300	25050	9176
21:59	ZZZZZZ	6555	145090	25362	9966

INTERNAL STANDARD SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
22:04	ZZZZZZ	6348	139080	25009	9201
22:09	MA46555-CCV11	6291	137600	25169	9058
22:14	MA46555-CCB12	6580	144920	25499	9998
22:19	MP14332-MB2	6642	147490	25993	10086
22:24	MP14332-B2	6415	140760	25478	9305
22:29	MP14332-S1	6467	142020	25921	9315
22:34	MP14332-S2	6467	141890	25846	9300
22:39	JC86445-3	6670	147930	26265	10085
22:44	MP14332-SD1	6675	148250	26305	10072
22:49	ZZZZZZ	6358	141080	25697	9143
22:54	ZZZZZZ	6689	146140	25889	9823
22:59	ZZZZZZ	6683	147520	26267	9832
23:04	MA46555-CCV12	6312	139060	25220	9070
23:09	MA46555-CCB13	6648	147540	25715	10082
23:15	ZZZZZZ	6480	143180	25915	9273
23:20	ZZZZZZ	6290	138400	25635	8773
23:25	ZZZZZZ	6459	142580	25927	9199
23:30	ZZZZZZ	No results reported for the elements associated with this internal standard.			
23:35	ZZZZZZ	6143	137340	25884	8707
23:41	ZZZZZZ	6110	136370	25685	8681
23:46	MP14417-MB1	6284	138080	25537	8916
23:51	MP14417-B1	6316	137830	25507	8860
23:56	MP14417-S1	6302	138490	25521	8846
00:01	MP14417-S2	6300	138630	25421	8838
00:06	MA46555-CCV13	6313	138880	25253	9067
00:11	MA46555-CCB14	6503	144260	24957	9904
00:17	JC86545-5A	6241	136240	24846	8836
00:22	MP14417-SD1	6351	140680	25133	9324
00:27	ZZZZZZ	6234	136430	24959	8777
00:32	ZZZZZZ	6202	135830	24846	8806
00:37	ZZZZZZ	6228	136500	25082	8847
00:42	ZZZZZZ	6184	135730	24829	8794
00:48	ZZZZZZ	6157	135190	24505	8760

INTERNAL STANDARD SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
00:53	ZZZZZZ	6200	999999 !a	24603	8821
00:58	ZZZZZZ	6199	134720	24690	8806
01:03	ZZZZZZ	6145	134730	24618	8673
01:09	MA46555-CCV14	6197	135840	24381	8934
01:14	MA46555-CCB15	6461	142810	24256	9837
01:19	ZZZZZZ	6195	136440	24676	8783
01:24	ZZZZZZ	6168	135530	24586	8745
01:29	ZZZZZZ	6088	134710	24238	8622
01:34	ZZZZZZ	6026	133530	24079	8544
01:40	ZZZZZZ	6031	132800	24207	8551
01:45	ZZZZZZ	6049	133100	23990	8570
01:50	ZZZZZZ	6078	133360	24446	8540
01:55	ZZZZZZ	6541	142690	24934	9667
02:00	MP14318-MB1	6682	148030	25200	10072
02:05	MP14318-B1	6368	139930	24699	9219
02:10	MA46555-CCV15	6217	136490	24214	8946
02:15	MA46555-CCB16	6474	143960	24396	9845
02:20	MP14318-S1	6352	139900	25632	9253
02:26	MP14318-S2	6374	138570	25398	8948
02:31	JC86390-6	6479	141050	25384	9112
02:36	MP14318-SD1	6572	144420	25015	9591
02:41	ZZZZZZ	6760	147290	25680	9533
02:46	ZZZZZZ	6664	146580	25900	9605
02:51	ZZZZZZ	6650	145810	25608	9557
02:56	ZZZZZZ	6565	144080	25925	9340
03:01	ZZZZZZ	6637	145430	25962	9389
03:06	ZZZZZZ	6676	146460	25964	9511
03:11	MA46555-CCV16	6246	136310	24293	8990
03:16	MA46555-CCB17	6461	144310	24480	9829
03:21	ZZZZZZ	6633	146770	25797	9475
03:26	ZZZZZZ	6741	147400	26374	9422
03:31	ZZZZZZ	6641	145900	26313	9411
03:36	ZZZZZZ	6689	150140	26863	9457

INTERNAL STANDARD SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
03:41	ZZZZZZ	6674	146660	25586	9613
03:46	ZZZZZZ	6657	145980	26132	9418
03:51	ZZZZZZ	6651	145050	26129	9376
03:56	ZZZZZZ	6667	146520	26166	9365
04:01	ZZZZZZ	6693	146700	26163	9414
04:06	ZZZZZZ	6658	146480	26053	9301
04:11	MA46555-CCV17	6263	136740	24413	9009
04:16	MA46555-CCB18	6512	144390	24275	9906
04:21	ZZZZZZ	6634	145760	26131	9263
04:27	ZZZZZZ	6657	146210	25941	9436
04:31	ZZZZZZ	6753	147690	26039	9433
04:37	MP14378-MB1	6608	147180	25165	10014
04:42	MP14378-B1	6467	142340	24726	9345
04:47	MP14378-S1	6199	136640	24405	8779
04:52	MP14378-S2	6143	135770	24273	8711
04:57	JC86493-2F	6280	138880	24656	8949
05:02	MA46555-CCV18	6216	136150	23841	8958
05:07	MA46555-CCB19	6512	144340	24285	9910
05:12	MP14378-SD1	6410	141900	24361	9447
05:18	ZZZZZZ	6316	140030	24493	9109
05:23	ZZZZZZ	6220	138500	24576	8896
05:28	ZZZZZZ	6239	137880	24509	8848
05:33	ZZZZZZ	6040	134960	23982	8659
05:38	ZZZZZZ	6197	136370	24278	8793
05:44	ZZZZZZ	6187	137530	24017	8975
05:49	ZZZZZZ	6059	134520	24055	8561
05:54	ZZZZZZ	6109	136290	24008	8812
05:59	MA46555-CCV19	6282	137710	23947	9049
06:04	MA46555-CCB20	6489	143640	24240	9899
06:09	ZZZZZZ	6168	137490	24195	8975
06:14	ZZZZZZ	6061	135040	24171	8666
06:21	ZZZZZZ	5569	124690	23304	7802
06:26	ZZZZZZ	6445	142560	24377	9508

INTERNAL STANDARD SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46555
Parameters: Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
06:31	ZZZZZZ	6199	135490	24020	8843
06:36	ZZZZZZ	6156	136250	23923	8935
06:41	ZZZZZZ	5399	119230	23178	7377
06:47	ZZZZZZ	5949	131630	23790	8354
06:52	MA46555-CCV20	6263	137590	23785	9036
06:57	MA46555-CCB21	6489	144070	24026	9918
07:02	ZZZZZZ	5968	131420	23648	8371
07:07	ZZZZZZ	5938	130320	23485	8340
07:13	MP14378-MB2	6535	146320	24394	9951
07:18	MP14378-B2	6392	141030	24297	9299
07:23	MA46555-CCV21	6215	136550	23604	8982
07:28	MA46555-CCB22	6496	144530	23719	9921
07:35	JC86634-1	6225	136930	23340	9143
07:44	MA46555-CCV22	6172	135230	23187	8930
07:54	MA46555-CCB23	6468	143430	23643	9897

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

(a) No samples reported for the elements associated with this internal standard.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46555 Units: ug/l

Time:			11:02		11:22		12:20		14:12	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1.4	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.5	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	.8	anr							
Cadmium	3.0	.3	anr							
Calcium	5000	3.9	anr							
Chromium	10	.3	anr							
Cobalt	50	.3								
Copper	10	.6	anr							
Iron	100	2.6	anr							
Lead	3.0	1.6	anr							
Lithium	50	2.1								
Magnesium	5000	16								
Manganese	15	.1	0.00	<15	0.400	<15	0.400	<15	0.00	<15
Molybdenum	20	.4								
Nickel	10	.5	anr							
Phosphorus	50	1.9								
Potassium	10000	79								
Selenium	10	3	anr							
Silicon	200	1.2								
Silver	10	.5	anr							
Sodium	10000	9.9	anr							
Strontium	10	.3								
Sulfur	50	3.5								
Thallium	10	1.3								
Tin	10	.7								
Titanium	10	.5								
Tungsten	50	1.7								
Vanadium	50	.5	anr							
Zinc	20	.2	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46555 Units: ug/l

Time:			11:02		11:22		12:20		14:12	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46555 Units: ug/l

Time:			15:17		16:13		17:10	
Sample ID:			CCB4		CCB5		CCB6	
Metal	RL	IDL	raw	final	raw	final	raw	final
Aluminum	200	14	anr					
Antimony	6.0	1.4	anr					
Arsenic	3.0	1.5	anr					
Barium	200	.5	anr					
Beryllium	1.0	.1	anr					
Bismuth	20	1.8						
Boron	100	.8	anr					
Cadmium	3.0	.3	anr					
Calcium	5000	3.9	anr					
Chromium	10	.3	anr					
Cobalt	50	.3						
Copper	10	.6	anr					
Iron	100	2.6	anr					
Lead	3.0	1.6	anr					
Lithium	50	2.1						
Magnesium	5000	16						
Manganese	15	.1	0.00	<15	0.400	<15	0.100	<15
Molybdenum	20	.4						
Nickel	10	.5	anr					
Phosphorus	50	1.9						
Potassium	10000	79						
Selenium	10	3	anr					
Silicon	200	1.2						
Silver	10	.5	anr					
Sodium	10000	9.9	anr					
Strontium	10	.3						
Sulfur	50	3.5						
Thallium	10	1.3						
Tin	10	.7						
Titanium	10	.5						
Tungsten	50	1.7						
Vanadium	50	.5	anr					
Zinc	20	.2	anr					

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA46555 Units: ug/l

Time:			15:17		16:13		17:10	
Sample ID:			CCB4		CCB5		CCB6	
Metal	RL	IDL	raw	final	raw	final	raw	final
Zirconium	10	.3						

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA46555 Units: ug/l

Time:		11:13	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth			
Boron	anr		
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt			
Copper	anr		
Iron	anr		
Lead	anr		
Lithium			
Magnesium			
Manganese	2000	2020	101.0
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium			
Selenium	anr		
Silicon			
Silver	anr		
Sodium	anr		
Strontium			
Sulfur			
Thallium			
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	anr		

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA46555 Units: ug/l

Time:		11:13	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		10:57			12:15			14:07	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium									
Manganese	2000	2020	101.0	2000	2020	101.0	2000	2060	103.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		10:57			12:15			14:07	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		15:08			16:08			17:05	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium									
Manganese	2000	2160	108.0	2000	2070	103.5	2000	2060	103.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA46555 Units: ug/l

Time:		15:08			16:08			17:05	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA46555 Units: ug/l

Time:		11:48			11:54	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron	anr					
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper	anr					
Iron						
Lead	anr					
Lithium						
Magnesium						
Manganese	8000	8000	100.0			
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					

HIGH STANDARD CHECK SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA46555 Units: ug/l

Time:		11:48			11:54	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA46555 Units: ug/l

Time:				11:27		11:32	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1	
Metal	True	True	True	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr			
Antimony	6.0	20	3.0	anr			
Arsenic	8.0	20	3.0	anr			
Barium	200		4.0	anr			
Beryllium	2.0		1.0	anr			
Bismuth	20						
Boron	100		10	anr			
Cadmium	3.0		1.0	anr			
Calcium	5000	2000	1000	anr			
Chromium	10		2.0	anr			
Cobalt	50		3.0				
Copper	10		2.0	anr			
Iron	100	500		anr			
Lead	3.0	20	2.5	anr			
Lithium	50						
Magnesium	5000	2000	100				
Manganese	15		3.0	15.8	105.3	3.60	120.0
Molybdenum	20						
Nickel	10		4.0	anr			
Phosphorus	50						
Potassium	5000		2000				
Selenium	10	20	5.0	anr			
Silicon	200						
Silver	5.0		2.0	anr			
Sodium	5000		1000	anr			
Strontium	10						
Sulfur	50						
Thallium	10		2.0				
Tin	10						
Titanium	10						
Tungsten	50						
Vanadium	50		2.0	anr			
Zinc	20		10	anr			

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA46555 Units: ug/l

Time:				11:27		11:32	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1	
Metal	True	True	True	Results	% Rec	Results	% Rec
Zirconium	10						

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA46555 Units: ug/l

Time:			11:37		11:42		16:34		16:39	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	498000	99.6	502000	100.4	506000	101.2	507000	101.4
Antimony		1000	0.100		1070	107.0	-0.400		1080	108.0
Arsenic		1000	-0.300		1070	107.0	0.600		1070	107.0
Barium		500	0.500		507	101.4	0.500		519	103.8
Beryllium		500	0.100		490	98.0	0.100		492	98.4
Bismuth		500	-2.20		506	101.2	-2.80		507	101.4
Boron		500	0.600		477	95.4	-0.400		481	96.2
Cadmium		1000	-0.300		999	99.9	-0.200		1010	101.0
Calcium	400000	400000	384000	96.0	378000	94.5	381000	95.3	366000	91.5
Chromium		500	-0.400		484	96.8	-0.100		488	97.6
Cobalt		500	1.10		488	97.6	1.30		489	97.8
Copper		500	-3.70		497	99.4	-3.60		501	100.2
Iron	200000	200000	189000	94.5	195000	97.5	187000	93.5	190000	95.0
Lead		1000	-0.400		950	95.0	-1.30		955	95.5
Lithium		500	-9.00		522	104.4	-9.00		533	106.6
Magnesium	500000	500000	496000	99.2	501000	100.2	492000	98.4	498000	99.6
Manganese		500	1.00		510	102.0	0.600		511	102.2
Molybdenum		500	0.700		484	96.8	1.00		488	97.6
Nickel		1000	-0.400		968	96.8	-0.200		971	97.1
Phosphorus		500	20.6		543	108.6	35.5		496	99.2
Potassium			366		286		455		311	
Selenium		1000	2.30		1050	105.0	0.00		1050	105.0
Silicon		500	3.50		508	101.6	3.30		512	102.4
Silver		1000	4.10		1130	113.0	3.10		1130	113.0
Sodium			158		146		241		182	
Strontium		500	-0.400		506	101.2	-0.300		515	103.0
Sulfur		500	10.6		514	102.8	17.0		511	102.2
Thallium		1000	-1.20		974	97.4	-2.30		971	97.1
Tin		500	-2.60		471	94.2	-1.90		472	94.4
Titanium		500	-1.60		504	100.8	-1.70		506	101.2
Tungsten		500	0.800		475	95.0	6.80		482	96.4
Vanadium		500	-1.50		495	99.0	-0.700		497	99.4
Zinc		1000	-1.30		949	94.9	-1.20		952	95.2

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: SC042219M1.ICP Date Analyzed: 04/22/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA46555 Units: ug/l

Time:			11:37		11:42		16:34		16:39	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	-0.900		491	98.2	-0.900		495	99.0

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14334
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/18/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	14	46		
Antimony	6.0	1.4	4.7		
Arsenic	3.0	1.5	2.8		
Barium	200	.5	13		
Beryllium	1.0	.1	.5		
Bismuth	20	1.8	4		
Boron	100	.8	63		
Cadmium	3.0	.3	1		
Calcium	5000	3.9	99		
Chromium	10	.3	2		
Cobalt	50	.3	2.6		
Copper	10	.6	5.9		
Iron	100	2.6	32		
Lead	3.0	1.6	1.8		
Lithium	50	2.1	7.3		
Magnesium	5000	16	140		
Manganese	15	.1	1.4	0.10	<15
Molybdenum	20	.4	3.6		
Nickel	10	.5	1.7		
Phosphorus	50	1.9	18		
Potassium	10000	79	200		
Selenium	10	3	4.9		
Silicon	200	1.2	100		
Silver	10	.5	1.9		
Sodium	10000	9.9	570		
Strontium	10	.3	1		
Sulfur	50	3.5	45		
Thallium	10	1.3	1.8		
Tin	10	.7	3.7		
Titanium	10	.5	2.5		
Tungsten	50	1.7	40		
Vanadium	50	.5	1.8		
Zinc	20	.2	6.9		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14334
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/18/19

Metal	RL	IDL	MDL	MB raw	final
Zirconium	10	.3	4.1		

Associated samples MP14334: JC86512-8, JC86512-10

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14334
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/18/19

Metal	JC86402-9A Original MS		Spikelot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium	anr				
Cobalt					
Copper	anr				
Iron					
Lead	anr				
Lithium					
Magnesium					
Manganese	87.4	1960	2000	93.6	75-125
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc	anr				

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14334
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/18/19

Metal	JC86402-9A Original MS	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP14334: JC86512-8, JC86512-10

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14334
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/18/19

Metal	JC86402-9A Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium	anr					
Cobalt						
Copper	anr					
Iron						
Lead	anr					
Lithium						
Magnesium						
Manganese	87.4	1940	2000	92.6	1.0	20
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc	anr					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14334 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/18/19

Metal	JC86402-9A Original MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP14334: JC86512-8, JC86512-10

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14334
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date:			04/18/19					04/18/19	
Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSD Result	Spikelot MPSPK2	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Bismuth									
Boron									
Cadmium									
Calcium									
Chromium	anr								
Cobalt									
Copper	anr								
Iron									
Lead	anr								
Lithium									
Magnesium									
Manganese	2010	2000	100.5	80-120	2030	2000	101.5	1.0	20
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium									
Selenium									
Silicon									
Silver									
Sodium									
Strontium									
Sulfur									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc	anr								

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14334
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/18/19 04/18/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSD Result	Spikelot MPSPK2	% Rec	BSD RPD	QC Limit
Zirconium									

Associated samples MP14334: JC86512-8, JC86512-10

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14334
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/18/19

Metal	JC86402-9A Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Lithium				
Magnesium				
Manganese	87.4	91.1	4.2	0-10
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	anr			

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

QC Batch ID: MP14334
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/18/19

Metal	JC86402-9A Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP14334: JC86512-8, JC86512-10

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Instrument Detection Limits

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Instrument ID: SSTRACE3 **Effective Date:** 02/18/19

Analyte	IDL ug/l
Aluminum	14.3
Antimony	1.4
Arsenic	1.5
Barium	.5
Beryllium	.1
Bismuth	1.8
Boron	.8
Cadmium	.3
Calcium	3.9
Chromium	.3
Cobalt	.3
Copper	.6
Iron	2.6
Lead	1.6
Lithium	2.1
Magnesium	16.3
Manganese	.1
Molybdenum	.4
Nickel	.5
Phosphorus	1.9
Potassium	79
Selenium	3
Silicon	1.2
Silver	.5
Sodium	9.9
Sulfur	3.5
Strontium	.3
Thallium	1.3
Tin	.7
Titanium	.5
Tungsten	1.7
Vanadium	.5
Yttrium	5
Zinc	.2
Zirconium	.3

The above applies to the following instrument runs:
MA46555

Instrument Linear Ranges

Job Number: JC86512
Account: GEIMAW GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Instrument ID: SSTRACE3 **Effective Date:** 07/16/18

Analyte	Linear Range ug/l
Aluminum	300000
Antimony	8000
Arsenic	8000
Barium	8000
Beryllium	8000
Bismuth	8000
Boron	8000
Cadmium	8000
Calcium	200000
Chromium	8000
Cobalt	8000
Copper	8000
Iron	200000
Lead	8000
Lithium	8000
Magnesium	300000
Manganese	8000
Molybdenum	8000
Nickel	8000
Palladium	8000
Phosphorus	8000
Potassium	200000
Selenium	8000
Silicon	25000
Silver	625
Sodium	200000
Sulfur	100000
Strontium	8000
Thallium	8000
Tin	8000
Titanium	8000
Tungsten	8000
Vanadium	8000
Zinc	8000
Zirconium	8000

The above applies to the following instrument runs:
MA46555

Metals Analysis

Raw Data

Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 4/22/2019 10:36:45 Type: Cal
Method: SGS 3 NO Valve(v286) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0124**	**-.0009**	**.0005**	**.0001**	**-.0001**	**.0028**	**.0001**	**-.0001**	**-.0004**
Stddev	.0005	.0001	.0000	.0001	.0000	.0001	.0000	.0004	.0000
%RSD	3.703	11.01	2.850	72.21	39.14	2.296	39.14	390.9	6.692
#1	.0125	-.0011	.0005	.0001	-.0001	.0027	.0000	.0000	-.0003
#2	.0119	-.0009	.0005	.0001	-.0001	.0028	.0001	-.0005	-.0004
#3	.0129	-.0009	.0005	.0000	-.0001	.0029	.0001	.0002	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0004**	**-.0005**	**-.0002**	**-.0002**	**.0005**	**.0001**	**.0009**	**.0003**	**.0085**
Stddev	.0001	.0002	.0001	.0001	.0003	.0002	.0003	.0003	.0002
%RSD	20.64	45.87	72.38	37.45	71.57	273.3	35.29	92.58	2.486
#1	.0004	-.0007	-.0000	-.0002	.0001	.0000	.0012	.0007	.0087
#2	.0005	-.0003	-.0003	-.0003	.0006	-.0001	.0007	.0000	.0085
#3	.0003	-.0006	-.0002	-.0002	.0007	.0002	.0007	.0004	.0083

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**-.0000**	**-.0019**	**-.0103**	**.0008**	**-.0005**	**.0029**	**.0003**	**-.0013**
Stddev	.0002	.0001	.0004	.0003	.0002	.0002	.0003	.0001	.0002
%RSD	134.1	272.3	18.51	2.763	30.26	48.88	11.29	35.73	18.41
#1	-.0001	-.0002	-.0022	-.0100	.0005	-.0003	.0029	.0005	-.0010
#2	.0002	-.0000	-.0021	-.0106	.0010	-.0007	.0025	.0002	-.0015
#3	.0003	.0001	-.0015	-.0103	.0009	-.0004	.0032	.0003	-.0015

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**.0007**	**-.0005**	**.0003**	**-.0003**	**-.0037**	**-.0045**
Stddev	.0001	.0002	.0000	.0001	.0001	.0015	.0001
%RSD	40.53	23.36	7.906	28.97	33.45	39.62	1.392
#1	.0002	.0006	-.0005	.0004	-.0003	-.0021	-.0045
#2	.0001	.0009	-.0005	.0003	-.0003	-.0042	-.0044
#3	.0002	.0007	-.0006	.0002	-.0005	-.0049	-.0045

◀ Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 4/22/2019 10:36:45 Type: Cal
Method: SGS 3 NO Valve(v286) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**145770.**	**26527.**	**6583.6**	**10091.**
Stddev	578.	111.	19.0	13.
%RSD	.39679	.41942	.28849	.12560
#1	145650.	26497.	6594.9	10102.
#2	146410.	26651.	6594.3	10095.
#3	145270.	26435.	6561.7	10077.

◀ Zoom In ▶ Zoom Out

Sample Name: STDb Acquired: 4/22/2019 10:41:50 Type: Cal
Method: SGS 3 NO Valve(v286) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7.281**	**12.25**	**4.630**	**2.940**	**.6668**	**1.089**	**3.598**	**2.423**	**.0755**
Stddev	.071	.19	.010	.004	.0005	.001	.028	.003	.0001
%RSD	.9811	1.568	.2141	.1265	.0681	.0802	.7663	.1077	.1884
#1	7.364	12.03	4.636	2.943	.6672	1.089	3.577	2.426	.0754
#2	7.245	12.38	4.636	2.940	.6668	1.089	3.588	2.424	.0757
#3	7.236	12.35	4.619	2.936	.6663	1.088	3.629	2.421	.0755

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.9081**	**6.864**	**.4916**	**.3027**	**1.070**	**.3815**	**.6388**	**3.524**	**8.745**
Stddev	.0007	.012	.0008	.0010	.002	.0004	.0016	.005	.012
%RSD	.0728	.1753	.1681	.3257	.1590	.1028	.2495	.1563	.1329
#1	.9088	6.867	.4923	.3033	1.071	.3811	.6389	3.522	8.732
#2	.9080	6.875	.4907	.3015	1.071	.3818	.6403	3.530	8.754
#3	.9075	6.851	.4919	.3032	1.068	.3817	.6371	3.519	8.749

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5.447**	**.9666**	**1.681**	**6.258**	**1.022**	**3.016**	**2.167**	**.9079**	**13.62**
Stddev	.009	.0011	.003	.004	.001	.003	.003	.0010	.15
%RSD	.1553	.1100	.1602	.0639	.0946	.1011	.1183	.1050	1.124
#1	5.441	.9654	1.680	6.256	1.023	3.019	2.168	.9090	13.79
#2	5.457	.9670	1.684	6.263	1.023	3.015	2.168	.9073	13.50
#3	5.443	.9674	1.678	6.256	1.021	3.013	2.164	.9074	13.56

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.7259**	**1.580**	**2.001**	**.1971**	**.6850**	**1.823**	**.1241**
Stddev	.0005	.001	.025	.0009	.0022	.001	.0009
%RSD	.0754	.0876	1.244	.4780	.3183	.0717	.6888
#1	.7264	1.579	1.973	.1976	.6866	1.822	.1234
#2	.7259	1.581	2.009	.1960	.6859	1.823	.1238
#3	.7253	1.579	2.021	.1976	.6825	1.825	.1250

◀ Zoom In ▶ Zoom Out

Sample Name: STDb Acquired: 4/22/2019 10:41:50 Type: Cal
Method: SGS 3 NO Valve(v286) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**134050.**	**25896.**	**6140.5**	**8888.6**
Stddev	446.	28.	12.9	15.6
%RSD	.33257	.10840	.21081	.17600
#1	133840.	25864.	6153.0	8905.9
#2	134560.	25909.	6127.2	8875.5
#3	133750.	25915.	6141.4	8884.5

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 4/22/2019 10:47:25 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.022**	**2.031**	**2.004**	**2.038**	**1.995**	**1.975**	**2.037**	**2.040**	**.2466**
Stddev	.001	.000	.000	.002	.005	.003	.014	.003	.0006
%RSD	.0394	.0118	.0207	.0792	.2416	.1665	.6889	.1395	.2489
#1	2.022	2.031	2.004	2.039	1.990	1.973	2.021	2.043	.2460
#2	2.023	2.031	2.005	2.039	1.999	1.979	2.041	2.040	.2473
#3	2.022	2.031	2.005	2.036	1.997	1.973	2.048	2.037	.2465
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.998**	**2.028**	**2.006**	**2.072**	**2.034**	**2.003**	**2.012**	**39.69**	**40.06**
Stddev	.005	.003	.001	.006	.004	.002	.000	.01	.02
%RSD	.2285	.1343	.0418	.2878	.1799	.1040	.0130	.0327	.0443
#1	1.993	2.030	2.007	2.066	2.038	2.005	2.011	39.69	40.08
#2	2.001	2.025	2.005	2.077	2.034	2.003	2.012	39.67	40.04
#3	2.000	2.028	2.005	2.075	2.030	2.001	2.012	39.70	40.07
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.16**	**40.23**	**39.99**	**40.46**	**2.032**	**2.017**	**5.248**	**2.047**	**2.008**
Stddev	.02	.01	.04	.03	.001	.002	.004	.003	.002
%RSD	.0456	.0201	.1085	.0628	.0377	.1015	.0812	.1602	.0752
#1	40.18	40.22	39.96	40.44	2.033	2.018	5.246	2.043	2.007
#2	40.15	40.24	39.96	40.44	2.032	2.014	5.244	2.049	2.008
#3	40.17	40.24	40.04	40.48	2.032	2.018	5.253	2.048	2.010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 4/22/2019 10:47:25 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.009**	**1.977**	**2.036**	**1.986**	**2.018**	**1.989**	**2.054**
Stddev	.002	.003	.003	.005	.002	.003	.015
%RSD	.0811	.1311	.1436	.2710	.0758	.1342	.7243
#1	2.011	1.977	2.034	1.980	2.017	1.990	2.040
#2	2.008	1.974	2.039	1.990	2.018	1.986	2.052
#3	2.008	1.980	2.035	1.989	2.020	1.990	2.070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**139280.**	**26503.**	**6356.3**	**9194.5**
Stddev	274.	131.	16.8	18.2
%RSD	.19686	.49354	.26475	.19813
#1	139590.	26405.	6354.1	9185.9
#2	139120.	26651.	6374.1	9215.5
#3	139110.	26451.	6340.7	9182.2

Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 4/22/2019 10:52:27 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0000**	**-.0000**	**-.0002**	**.0003**	**.0003**	**-.0000**	**.0000**
Stddev	.0002	.0000	.0001	.0001	.0002	.0005	.0000	.0001
%RSD	63.50	96.31	2170.	61.42	60.17	145.4	448.3	3516.
#1	-.0006	.0001	.0000	-.0003	.0004	.0006	-.0000	.0002
#2	-.0003	.0000	.0001	-.0003	.0001	.0005	.0000	-.0001
#3	-.0001	.0000	-.0001	-.0001	.0004	-.0002	-.0000	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0004**	**.0000**	**.0000**	**.0008**	**.0000**	**-.0011**	**.0004**
Stddev	.0002	.0001	.0001	.0009	.0006	.0010	.0023	.0007
%RSD	211.9	37.75	1066.	5216.	73.75	2370.	215.5	166.5
#1	.0000	-.0006	.0001	-.0006	.0010	.0011	-.0018	.0011
#2	.0000	-.0003	-.0000	.0010	.0013	-.0010	-.0030	-.0001
#3	-.0003	-.0003	-.0000	-.0004	.0001	.0001	.0015	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0058**	**-.0035**	**.0010**	**-.0005**	**.1486**	**.0901**	**.0029**	**.0000**
Stddev	.0064	.0010	.0017	.0081	.0116	.0054	.0001	.0002
%RSD	109.0	29.57	182.6	1636.	7.823	5.941	2.227	373.6
#1	-.0127	-.0026	.0011	-.0098	.1351	.0952	.0030	-.0001
#2	-.0045	-.0047	.0026	.0043	.1554	.0907	.0029	.0002
#3	-.0002	-.0033	-.0009	.0040	.1551	.0845	.0030	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 4/22/2019 10:52:27 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0003**	**-.0000**	**-.0004**	**-.0002**	**.0001**	**-.0011**	**.0006**
Stddev	.0008	.0003	.0001	.0001	.0007	.0002	.0016	.0005
%RSD	449.5	103.7	234.1	17.88	302.1	133.6	152.6	88.31
#1	.0005	.0005	.0001	-.0004	.0003	-.0001	.0000	-.0000
#2	.0000	.0004	-.0001	-.0004	-.0011	.0002	-.0029	.0009
#3	-.0011	-.0000	-.0001	-.0003	.0001	.0003	-.0003	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	F **-.0044**	**-.0030**
Stddev	.0011	.0017
%RSD	24.70	54.62
#1	-.0052	-.0039
#2	-.0032	-.0041
#3	-.0048	-.0011
Check ?	Chk Fail	Chk Pass
High Limit	.0040	
Low Limit	-.0040	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147280.**	**26702.**	**6601.0**	**10112.**
Stddev	429.	129.	9.5	7.
%RSD	.29131	.48470	.14332	.06848
#1	147510.	26566.	6611.6	10119.
#2	147550.	26823.	6593.3	10105.
#3	146790.	26718.	6598.2	10112.

Zoom In Zoom Out

Sample Name: icv 1 Acquired: 4/22/2019 10:57:36 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.047**	**2.043**	**1.985**	**2.043**	**1.967**	**1.966**	**2.022**	**2.007**	**.2562**
Stddev	.037	.037	.003	.001	.014	.015	.022	.001	.0023
%RSD	1.825	1.830	.1516	.0604	.7280	.7451	1.101	.0464	.9097
#1	2.007	2.004	1.988	2.043	1.958	1.956	2.030	2.007	.2540
#2	2.081	2.079	1.984	2.042	1.960	1.959	1.997	2.006	.2559
#3	2.052	2.048	1.982	2.044	1.984	1.983	2.039	2.008	.2587
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.987**	**1.981**	**1.994**	**2.043**	**1.992**	**1.970**	**1.978**	**40.46**	**40.44**
Stddev	.013	.003	.004	.008	.003	.003	.004	.77	.72
%RSD	.6318	.1498	.2234	.3805	.1692	.1572	.2117	1.892	1.771
#1	1.981	1.984	1.999	2.052	1.994	1.971	1.983	39.64	39.72
#2	1.979	1.979	1.992	2.038	1.988	1.973	1.975	41.16	41.15
#3	2.002	1.980	1.991	2.039	1.993	1.967	1.977	40.59	40.46
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.85**	**41.11**	**40.91**	**41.49**	**2.015**	**1.997**	F **5.410**	**2.013**	**2.030**
Stddev	.72	.75	.85	.81	.003	.003	.007	.006	.037
%RSD	1.769	1.812	2.082	1.963	.1228	.1620	.1367	.3184	1.847
#1	40.10	40.35	40.05	40.71	2.018	2.001	5.418	2.020	1.993
#2	41.55	41.84	41.75	42.34	2.013	1.995	5.406	2.012	2.068
#3	40.91	41.14	40.92	41.42	2.014	1.995	5.405	2.007	2.030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value							5.000		
Range							5.000%		

Zoom In Zoom Out

Sample Name: icv 1 Acquired: 4/22/2019 10:57:36 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.010**	**1.937**	**2.019**	**2.003**	**1.993**	**2.058**	**1.998**
Stddev	.012	.007	.012	.007	.003	.040	.009
%RSD	.6148	.3676	.5966	.3380	.1269	1.918	.4654
#1	2.003	1.944	2.012	2.011	1.995	2.016	1.990
#2	2.003	1.930	2.011	1.999	1.990	2.095	1.996
#3	2.024	1.939	2.032	1.999	1.993	2.062	2.008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**137350.**	**25690.**	**6324.5**	**9150.2**
Stddev	1113.	452.	9.2	7.0
%RSD	.81043	1.7591	.14510	.07653
#1	138060.	26009.	6317.6	9146.7
#2	137930.	25173.	6321.0	9145.6
#3	136070.	25887.	6334.9	9158.2

Zoom In Zoom Out

Sample Name: icb 7 Acquired: 4/22/2019 11:02:38 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0000**	**-.0000**	**-.0002**	**-.0000**	**.0002**	**.0000**	**.0001**	**-.0003**
Stddev	.0000	.0000	.0002	.0002	.0002	.0004	.0000	.0004	.0002
%RSD	17.83	38.90	913.1	84.96	4574.	178.2	121.9	288.7	67.18
#1	.0002	.0000	-.0001	-.0002	-.0002	-.0002	.0001	.0001	-.0004
#2	.0001	.0000	.0002	-.0003	.0000	.0002	.0000	.0005	-.0001
#3	.0002	.0000	-.0002	-.0000	.0002	.0006	.0000	-.0002	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0001**	**-.0004**	**.0005**	**.0003**	**-.0016**	**.0004**	**.0046**	**-.0020**
Stddev	.0002	.0001	.0019	.0013	.0009	.0004	.0009	.0092	.0014
%RSD	66.60	90.13	430.5	270.8	279.8	23.93	228.5	201.2	69.62
#1	-.0003	.0001	.0017	.0001	.0007	-.0013	-.0003	-.0028	-.0033
#2	-.0006	.0001	-.0021	.0019	-.0007	-.0020	.0014	.0016	-.0005
#3	-.0002	.0000	-.0009	-.0005	.0009	-.0016	.0001	.0150	-.0022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**.0043**	**.0657**	**.0421**	**.0029**	**.0002**	**-.0006**	**.0003**	**.0001**
Stddev	.0003	.0115	.0251	.0053	.0001	.0002	.0006	.0006	.0000
%RSD	31.71	263.9	38.15	12.68	4.504	128.7	99.97	200.5	33.73
#1	.0008	.0165	.0817	.0409	.0028	.0000	-.0013	-.0000	.0001
#2	.0007	.0028	.0786	.0374	.0030	.0004	-.0005	-.0001	.0001
#3	.0012	-.0062	.0368	.0479	.0031	.0000	-.0001	.0011	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: icb 7 Acquired: 4/22/2019 11:02:38 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0012**	**.0002**	**-.0009**	**.0019**	**-.0001**	**.0057**
Stddev	.0003	.0003	.0000	.0034	.0009	.0021	.0017
%RSD	350.1	28.41	15.33	360.5	48.39	1607.	29.63
#1	.0002	.0015	.0003	.0003	.0022	-.0006	.0063
#2	-.0001	.0013	.0002	.0016	.0026	.0021	.0038
#3	-.0004	.0008	.0002	-.0047	.0008	-.0019	.0070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142110.**	**26329.**	**6592.1**	**10083.**
Stddev	7021.	62.	12.5	15.
%RSD	4.9404	.23412	.18897	.15011
#1	146480.	26400.	6598.4	10087.
#2	134010.	26291.	6577.8	10066.
#3	145840.	26297.	6600.2	10095.

Zoom In Zoom Out

Sample Name: CRICONF Acquired: 4/22/2019 11:07:49 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2008**	**.0021**	**.0031**	**.0501**	**.0103**	**.0096**	**.0157**	**.0099**	**.0049**
Stddev	.0003	.0001	.0002	.0002	.0002	.0003	.0000	.0005	.0003
%RSD	.1564	3.845	5.328	.3240	2.125	2.923	.0705	4.830	5.567
#1	.2012	.0020	.0033	.0503	.0105	.0097	.0157	.0095	.0046
#2	.2007	.0020	.0030	.0499	.0104	.0093	.0157	.0096	.0051
#3	.2006	.0022	.0031	.0501	.0101	.0099	.0157	.0104	.0051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0498**	**.0206**	**.0076**	**.0097**	**.0031**	**.0092**	F **.0072**	**.2104**	**5.176**
Stddev	.0001	.0001	.0008	.0011	.0003	.0017	.0015	.0067	.007
%RSD	.2815	.4208	10.43	10.92	10.02	18.28	20.25	3.206	.1274
#1	.0499	.0205	.0085	.0086	.0030	.0087	.0089	.2026	5.178
#2	.0497	.0206	.0071	.0107	.0028	.0111	.0065	.2146	5.180
#3	.0498	.0207	.0072	.0100	.0034	.0079	.0062	.2141	5.168
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value							.0060		
Range							20.00%		

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1066**	**5.316**	**5.218**	**5.322**	**.1030**	**.0211**	**.2145**	**.0109**	**.0101**
Stddev	.0027	.004	.026	.007	.0009	.0004	.0009	.0003	.0000
%RSD	2.503	.0673	.5046	.1354	.8674	1.936	.4040	2.848	.3751
#1	.1073	5.314	5.233	5.320	.1035	.0207	.2136	.0112	.0101
#2	.1037	5.320	5.233	5.330	.1019	.0215	.2148	.0106	.0100
#3	.1089	5.314	5.188	5.316	.1035	.0210	.2153	.0108	.0101
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CRICONF Acquired: 4/22/2019 11:07:49 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0101**	**.0534**	**.0111**	**.0505**	**.0236**	**.0535**	**.0546**
Stddev	.0001	.0004	.0001	.0029	.0013	.0031	.0023
%RSD	.9312	.7954	1.110	5.687	5.596	5.752	4.264
#1	.0102	.0538	.0110	.0491	.0221	.0569	.0572
#2	.0102	.0531	.0112	.0485	.0239	.0511	.0527
#3	.0100	.0531	.0111	.0538	.0247	.0524	.0540
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143840.**	**26388.**	**6493.5**	**9721.7**
Stddev	812.	109.	10.3	2.9
%RSD	.56466	.41411	.15896	.02943
#1	142950.	26455.	6505.4	9720.3
#2	144040.	26262.	6488.4	9725.0
#3	144530.	26447.	6486.8	9719.8

Zoom In Zoom Out

Sample Name: ICCV 1 Acquired: 4/22/2019 11:13:11 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.015**	**2.019**	**2.002**	**2.036**	**1.996**	**1.979**	**2.020**	**2.038**	**.2470**
Stddev	.025	.026	.002	.002	.005	.005	.009	.001	.0009
%RSD	1.227	1.274	.0905	.0784	.2340	.2777	.4362	.0705	.3839
#1	1.980	1.982	2.002	2.037	1.990	1.970	2.030	2.039	.2456
#2	2.037	2.042	2.002	2.036	1.998	1.981	2.009	2.039	.2476
#3	2.025	2.028	2.000	2.034	1.998	1.982	2.020	2.036	.2470
#4	2.019	2.023	2.005	2.036	2.000	1.980	2.021	2.038	.2476
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.994**	**2.026**	**2.000**	**2.057**	**2.033**	**1.996**	**2.007**	**39.54**	**39.97**
Stddev	.005	.002	.008	.015	.003	.006	.003	.49	.51
%RSD	.2530	.1138	.3830	.7158	.1235	.2875	.1572	1.229	1.274
#1	1.988	2.027	2.003	2.068	2.035	2.000	2.005	38.85	39.25
#2	1.999	2.025	2.004	2.072	2.031	2.001	2.006	39.99	40.43
#3	1.993	2.024	1.989	2.043	2.031	1.989	2.007	39.73	40.17
#4	1.996	2.029	2.004	2.046	2.035	1.994	2.012	39.59	40.04
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICCV 1 Acquired: 4/22/2019 11:13:11 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.95**	**40.15**	**39.83**	**40.51**	**2.029**	**2.017**	**5.236**	**2.040**	**2.005**
Stddev	.50	.51	.45	.45	.004	.004	.004	.004	.025
%RSD	1.248	1.281	1.121	1.121	.2010	.1919	.0704	.1888	1.227
#1	39.23	39.41	39.22	39.86	2.027	2.019	5.237	2.043	1.969
#2	40.39	40.59	40.25	40.90	2.028	2.020	5.235	2.042	2.024
#3	40.14	40.38	40.04	40.71	2.027	2.011	5.231	2.035	2.014
#4	40.02	40.22	39.79	40.57	2.035	2.017	5.240	2.038	2.013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.010**	**1.979**	**2.033**	**1.958**	**2.019**	**1.981**	**2.004**
Stddev	.005	.002	.005	.010	.005	.028	.008
%RSD	.2469	.1065	.2498	.5205	.2351	1.401	.4148
#1	2.003	1.978	2.025	1.969	2.023	1.942	2.002
#2	2.014	1.981	2.036	1.963	2.019	2.007	1.993
#3	2.010	1.977	2.034	1.956	2.012	1.990	2.012
#4	2.012	1.981	2.036	1.946	2.021	1.984	2.008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Zoom In Zoom Out

Sample Name: ICCV 1 Acquired: 4/22/2019 11:13:11 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**138870.**	**26209.**	**6338.0**	**9167.8**
Stddev	353.	369.	14.9	14.9
%RSD	.25408	1.4073	.23569	.16201
#1	138990.	26722.	6352.8	9181.0
#2	139250.	25914.	6348.2	9180.3
#3	138850.	25969.	6329.5	9155.3
#4	138400.	26230.	6321.4	9154.6

Zoom In Zoom Out

Sample Name: CCB 7 Acquired: 4/22/2019 11:22:44 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0002**	**.0002**	**.0001**	**.0005**	**.0002**	**.0004**	**.0004**	**-.0004**
Stddev	.0001	.0001	.0001	.0002	.0003	.0001	.0001	.0002	.0004
%RSD	40.90	59.90	25.14	175.3	73.53	90.57	13.67	46.37	106.9
#1	.0004	.0003	.0002	-.0001	.0008	.0001	.0003	.0007	-.0009
#2	.0002	.0002	.0002	.0002	.0001	.0003	.0005	.0004	-.0001
#3	.0002	.0001	.0003	.0001	.0005	.0000	.0004	.0003	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0004**	**-.0001**	**.0009**	**.0006**	**-.0013**	**.0006**	**-.0024**	**.0030**
Stddev	.0003	.0001	.0009	.0011	.0005	.0010	.0009	.0062	.0003
%RSD	344.5	18.65	752.7	130.7	80.97	77.36	167.9	259.6	10.10
#1	-.0001	.0005	.0006	.0020	.0004	-.0004	.0014	.0043	.0033
#2	-.0003	.0004	.0002	-.0003	.0011	-.0011	-.0004	-.0080	.0027
#3	.0002	.0004	-.0011	.0010	.0002	-.0023	.0007	-.0035	.0031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0036**	**.0019**	**.1550**	**.0772**	**.0036**	**.0006**	**-.0001**	**.0002**	**.0002**
Stddev	.0007	.0047	.0355	.0177	.0002	.0001	.0002	.0004	.0000
%RSD	20.37	246.9	22.90	22.89	5.622	22.62	201.6	196.0	12.92
#1	.0041	.0071	.1406	.0975	.0037	.0008	-.0000	.0005	.0002
#2	.0039	-.0021	.1954	.0654	.0038	.0005	-.0003	.0004	.0003
#3	.0028	.0008	.1289	.0686	.0034	.0006	.0000	-.0003	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB 7 Acquired: 4/22/2019 11:22:44 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0011**	**.0005**	**-.0004**	**.0015**	**-.0026**	**.0012**
Stddev	.0003	.0009	.0001	.0005	.0011	.0015	.0015
%RSD	271.2	83.17	16.25	106.6	74.67	56.01	123.0
#1	-.0002	.0020	.0004	.0001	.0028	-.0011	.0016
#2	.0002	.0002	.0006	-.0008	.0009	-.0028	.0026
#3	.0003	.0011	.0005	-.0006	.0008	-.0040	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146780.**	**26259.**	**6575.9**	**10064.**
Stddev	634.	115.	11.0	17.
%RSD	.43187	.43899	.16750	.17105
#1	146280.	26145.	6588.2	10082.
#2	147490.	26375.	6572.5	10063.
#3	146570.	26256.	6567.0	10048.

Zoom In Zoom Out

Sample Name: CRI Acquired: 4/22/2019 11:27:28 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2009**	**.0021**	**.0030**	**.0505**	**.0104**	**.0095**	**.0158**	**.0103**	**.0048**
Stddev	.0005	.0001	.0001	.0001	.0003	.0002	.0000	.0001	.0003
%RSD	.2242	3.412	2.048	.1106	2.931	2.155	.2294	.6314	6.546
#1	.2013	.0020	.0029	.0504	.0104	.0095	.0158	.0103	.0045
#2	.2009	.0020	.0030	.0504	.0107	.0098	.0158	.0102	.0047
#3	.2004	.0021	.0030	.0505	.0101	.0094	.0158	.0104	.0051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0498**	**.0206**	**.0078**	**.0101**	**.0028**	**.0087**	**.0069**	**.2037**	**5.173**
Stddev	.0000	.0001	.0007	.0008	.0004	.0012	.0018	.0114	.003
%RSD	.0609	.2482	9.264	8.202	13.31	14.27	26.36	5.593	.0562
#1	.0498	.0206	.0084	.0109	.0023	.0073	.0060	.2151	5.176
#2	.0498	.0207	.0070	.0093	.0030	.0096	.0057	.1923	5.172
#3	.0498	.0207	.0079	.0102	.0029	.0092	.0090	.2038	5.171
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1061**	**5.306**	**5.198**	**5.381**	**.1030**	**.0211**	**.2155**	**.0111**	**.0100**
Stddev	.0002	.022	.025	.009	.0006	.0002	.0011	.0007	.0000
%RSD	.1718	.4130	.4727	.1640	.6070	1.137	.5295	6.410	.3952
#1	.1059	5.312	5.198	5.389	.1036	.0213	.2167	.0119	.0100
#2	.1062	5.282	5.222	5.372	.1031	.0212	.2153	.0111	.0099
#3	.1062	5.324	5.173	5.383	.1024	.0208	.2144	.0104	.0100
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CRI Acquired: 4/22/2019 11:27:28 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0104**	**.0526**	**.0110**	**.0516**	**.0225**	**.0544**	**.0496**
Stddev	.0002	.0009	.0001	.0015	.0012	.0013	.0018
%RSD	1.877	1.637	.5699	2.855	5.186	2.432	3.549
#1	.0105	.0525	.0110	.0499	.0218	.0535	.0507
#2	.0105	.0517	.0109	.0522	.0219	.0559	.0505
#3	.0102	.0535	.0110	.0526	.0239	.0538	.0476
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143760.**	**26339.**	**6498.6**	**9730.1**
Stddev	597.	182.	16.9	18.0
%RSD	.41500	.69079	.26047	.18474
#1	144450.	26199.	6516.0	9750.5
#2	143400.	26544.	6482.3	9716.6
#3	143430.	26273.	6497.4	9723.3

Zoom In Zoom Out

Sample Name: CRID Acquired: 4/22/2019 11:32:30 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0043**	**.0011**	**.0011**	**.0030**	F **.0025**	F **.0004**	**.0036**	**.0047**	F **.0001**
Stddev	.0002	.0000	.0001	.0002	.0002	.0002	.0000	.0007	.0002
%RSD	4.063	4.169	11.04	7.046	9.000	49.67	1.156	14.16	144.1
#1	.0044	.0011	.0012	.0031	.0024	.0002	.0036	.0042	.0000
#2	.0043	.0012	.0010	.0032	.0027	.0003	.0036	.0055	.0004
#3	.0041	.0011	.0010	.0028	.0023	.0006	.0035	.0045	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Fail
Value					.0020	.0020			.0020
Range					20.00%	-20.00%			-20.00%

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0018**	**.0117**	**.0033**	F **.0025**	F **.0004**	F **.0024**	F **.0019**	**.1138**	**1.155**
Stddev	.0002	.0002	.0004	.0003	.0005	.0018	.0006	.0108	.003
%RSD	11.53	1.320	12.87	11.12	108.2	73.98	30.47	9.511	.2178
#1	.0017	.0116	.0032	.0026	.0001	.0016	.0026	.1013	1.154
#2	.0020	.0117	.0037	.0028	.0009	.0045	.0015	.1207	1.158
#3	.0016	.0119	.0029	.0022	.0002	.0012	.0018	.1193	1.154
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Pass	Chk Pass
Value				.0020	.0025	.0050	.0030		
Range				20.00%	-20.00%	-20.00%	-20.00%		

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0034**	**.1159**	**2.337**	F **1.223**	**.0021**	**.0002**	**.0028**	**-.0007**	**.0000**
Stddev	.0007	.0091	.018	.009	.0005	.0002	.0017	.0003	.0001
%RSD	21.12	7.863	.7872	.6920	23.90	117.3	61.92	45.95	183.6
#1	.0043	.1107	2.358	1.230	.0026	.0003	.0025	-.0011	-.0000
#2	.0032	.1264	2.328	1.224	.0016	-.0001	.0012	-.0004	.0001
#3	.0028	.1105	2.324	1.213	.0020	.0004	.0046	-.0006	.0000
Check ?	None	Chk Pass	Chk Pass	Chk Fail	None	None	None	None	None
Value				1.000					
Range				20.00%					

Zoom In Zoom Out

Sample Name: CRID Acquired: 4/22/2019 11:32:30 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0009**	**.0001**	**.0019**	**.0014**	**-.0007**	**-.0043**
Stddev	.0003	.0002	.0002	.0010	.0013	.0013	.0012
%RSD	127.9	17.74	281.0	54.83	93.09	173.2	27.63
#1	.0001	.0008	.0002	.0017	-.0000	-.0022	-.0039
#2	-.0005	.0010	.0001	.0010	.0018	-.0001	-.0056
#3	-.0003	.0011	-.0001	.0030	.0025	.0001	-.0033
Check ?	None	None	None	None	None	None	None
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**145260.**	**26415.**	**6578.0**	**9999.6**
Stddev	241.	71.	18.8	29.1
%RSD	.16562	.26882	.28566	.29142
#1	145520.	26462.	6599.0	10033.
#2	145050.	26334.	6572.0	9979.8
#3	145220.	26450.	6562.9	9986.0

Zoom In Zoom Out

Sample Name: ICSA Acquired: 4/22/2019 11:37:36 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0001**	**-.0003**	**.0011**	**-.0004**	**-.0037**	**.0010**	**-.0004**	**.0041**
Stddev	.0002	.0001	.0001	.0001	.0005	.0004	.0002	.0004	.0003
%RSD	33.91	47.08	44.19	9.188	115.7	10.94	17.37	107.3	8.461
#1	.0004	.0001	-.0005	.0011	-.0004	-.0035	.0009	-.0004	.0037
#2	.0004	.0001	-.0003	.0010	.0001	-.0035	.0012	.0000	.0042
#3	.0007	.0002	-.0002	.0012	-.0008	-.0042	.0009	-.0008	.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0015**	**-.0013**	**-.0003**	**-.0012**	**-.0004**	**.0023**	**.0001**	**497.6**	**384.3**
Stddev	.0004	.0001	.0019	.0028	.0018	.0040	.0012	3.0	2.7
%RSD	26.38	4.870	673.6	233.8	512.3	174.7	1679.	.6049	.6945
#1	-.0013	-.0014	-.0018	-.0036	.0013	.0050	.0000	495.8	387.3
#2	-.0020	-.0013	.0019	.0019	-.0001	-.0023	-.0011	501.1	382.3
#3	-.0013	-.0014	-.0009	-.0019	-.0023	.0041	.0013	495.9	383.3
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**188.9**	**496.3**	**.3658**	**.1577**	**.0006**	**.0007**	**.0035**	**-.0026**	**-.0004**
Stddev	1.5	.5	.0102	.0136	.0003	.0002	.0008	.0008	.0000
%RSD	.7711	.1038	2.786	8.622	41.85	20.98	23.49	29.74	8.595
#1	188.7	496.9	.3728	.1510	.0009	.0008	.0026	-.0017	-.0005
#2	190.5	496.0	.3705	.1734	.0005	.0008	.0037	-.0031	-.0004
#3	187.6	496.0	.3541	.1488	.0004	.0006	.0041	-.0031	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ICSA Acquired: 4/22/2019 11:37:36 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0016**	**.0008**	**-.0009**	**.0106**	**-.0022**	**-.0090**	**.0206**
Stddev	.0003	.0015	.0002	.0033	.0013	.0014	.0024
%RSD	20.16	180.0	26.63	31.14	59.47	15.88	11.50
#1	-.0015	.0018	-.0009	.0077	-.0034	-.0094	.0220
#2	-.0020	.0016	-.0006	.0099	-.0008	-.0101	.0218
#3	-.0013	-.0009	-.0011	.0142	-.0024	-.0074	.0178
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**125600.**	**25248.**	**5863.5**	**8324.0**
Stddev	706.	34.	18.6	16.0
%RSD	.56173	.13654	.31758	.19263
#1	126400.	25283.	5847.5	8309.8
#2	125080.	25214.	5883.9	8341.4
#3	125310.	25245.	5859.1	8320.9

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/22/2019 11:42:58 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5073**	**.4895**	**.9986**	**.4876**	**.4837**	**.4970**	**.5103**	**.9679**	**1.126**
Stddev	.0014	.0018	.0011	.0009	.0007	.0008	.0004	.0008	.001
%RSD	.2755	.3609	.1107	.1836	.1380	.1521	.0838	.0824	.1264
#1	.5074	.4900	.9982	.4883	.4831	.4966	.5102	.9670	1.124
#2	.5087	.4910	.9998	.4878	.4844	.4979	.5099	.9684	1.127
#3	.5059	.4876	.9977	.4866	.4835	.4965	.5108	.9682	1.125
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4946**	**.9490**	**1.069**	**.9740**	**.9503**	**1.046**	**1.067**	**501.7**	**377.9**
Stddev	.0004	.0014	.002	.0054	.0028	.007	.004	4.8	2.8
%RSD	.0870	.1425	.1787	.5590	.2949	.7187	.3694	.9552	.7468
#1	.4944	.9474	1.069	.9682	.9479	1.038	1.070	498.3	377.9
#2	.4951	.9499	1.068	.9791	.9496	1.052	1.068	507.2	375.2
#3	.4943	.9496	1.072	.9747	.9534	1.049	1.063	499.6	380.8
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**194.6**	**500.6**	**.2862**	**.1461**	**.4773**	**.4841**	**.5079**	**.4712**	**.5062**
Stddev	2.2	1.6	.0361	.0082	.0009	.0014	.0022	.0017	.0011
%RSD	1.143	.3164	12.60	5.609	.1909	.2885	.4401	.3693	.2230
#1	192.1	500.8	.2467	.1369	.4763	.4825	.5060	.4696	.5067
#2	195.5	502.1	.3173	.1486	.4776	.4847	.5073	.4711	.5069
#3	196.2	498.9	.2944	.1527	.4781	.4851	.5104	.4730	.5049
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/22/2019 11:42:58 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5036**	**.4748**	**.4912**	**.5139**	**.5055**	**.5217**	**.5432**
Stddev	.0006	.0023	.0002	.0032	.0019	.0028	.0019
%RSD	.1153	.4894	.0492	.6187	.3676	.5343	.3407
#1	.5042	.4733	.4910	.5111	.5072	.5249	.5439
#2	.5031	.4775	.4913	.5174	.5035	.5200	.5411
#3	.5034	.4737	.4914	.5132	.5056	.5202	.5447
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**126430.**	**25354.**	**5878.6**	**8372.1**
Stddev	310.	32.	17.7	16.3
%RSD	.24554	.12791	.30130	.19507
#1	126780.	25342.	5897.5	8388.4
#2	126260.	25330.	5862.4	8355.8
#3	126230.	25391.	5875.8	8372.2

Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/22/2019 11:48:16 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.001**	**7.973**	**7.943**	**7.975**	**8.116**	**7.856**	**8.003**	**8.010**	**.6683**
Stddev	.108	.040	.042	.030	.007	.018	.074	.033	.0011
%RSD	1.355	.4988	.5246	.3805	.0917	.2339	.9209	.4066	.1677
#1	8.115	7.969	7.983	7.993	8.113	7.856	8.033	8.027	.6670
#2	7.900	7.936	7.900	7.940	8.124	7.838	7.919	7.972	.6691
#3	7.988	8.015	7.946	7.993	8.110	7.874	8.057	8.030	.6688
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.018**	**8.210**	**8.234**	**8.289**	**8.150**	**8.095**	**8.374**	**.1928**	**.0816**
Stddev	.007	.044	.041	.043	.031	.040	.035	.0075	.0049
%RSD	.0889	.5351	.4939	.5122	.3799	.4896	.4192	3.902	5.998
#1	8.016	8.247	8.262	8.319	8.175	8.122	8.405	.1914	.0771
#2	8.025	8.162	8.188	8.240	8.115	8.049	8.336	.1860	.0868
#3	8.011	8.221	8.253	8.307	8.160	8.113	8.382	.2009	.0810
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0198**	**.1160**	**.5540**	**.1582**	**8.169**	**8.432**	**27.08**	**8.605**	**7.887**
Stddev	.0005	.0021	.0172	.0145	.032	.043	.13	.043	.074
%RSD	2.497	1.845	3.111	9.180	.3917	.5041	.4798	.4998	.9407
#1	.0193	.1136	.5655	.1436	8.194	8.465	27.16	8.640	7.946
#2	.0199	.1168	.5623	.1584	8.133	8.384	26.93	8.557	7.911
#3	.0203	.1177	.5342	.1727	8.180	8.446	27.14	8.618	7.804
Check ?	None	None	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/22/2019 11:48:16 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.260**	**8.489**	**8.269**	**96.90**	**8.528**	**8.076**	**8.171**
Stddev	.108	.038	.099	.63	.043	.012	.039
%RSD	1.311	.4511	1.201	.6524	.5030	.1487	.4760
#1	8.349	8.525	8.381	97.31	8.568	8.074	8.198
#2	8.140	8.449	8.231	96.17	8.483	8.065	8.126
#3	8.292	8.495	8.194	97.21	8.534	8.089	8.189
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**141080.**	**26323.**	**6338.4**	**9732.8**
Stddev	168.	2.	29.1	37.2
%RSD	.11902	.00731	.45969	.38208
#1	140980.	26321.	6311.1	9703.2
#2	140980.	26325.	6369.1	9774.6
#3	141270.	26323.	6335.0	9720.7

Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/22/2019 11:54:10 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0005**	**.0000**	**.0015**	**-.0002**	**-.0020**	**.0016**	**.0002**	**.0045**
Stddev	.0002	.0000	.0002	.0002	.0003	.0002	.0002	.0003	.0004
%RSD	28.04	9.413	896.4	10.96	158.5	10.90	13.58	135.3	8.473
#1	.0009	.0005	.0000	.0013	-.0003	-.0017	.0019	.0001	.0047
#2	.0005	.0005	.0002	.0016	.0001	-.0021	.0015	.0000	.0041
#3	.0006	.0005	-.0001	.0017	-.0003	-.0021	.0016	.0006	.0047
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0017**	**-.0006**	**.0018**	**-.0010**	**.0006**	**.0018**	**.0007**	**318.3**	**203.5**
Stddev	.0005	.0001	.0004	.0009	.0020	.0009	.0017	1.3	1.5
%RSD	28.84	13.37	21.43	92.88	360.1	46.54	260.7	.3931	.7209
#1	-.0021	-.0006	.0018	-.0000	.0024	.0009	.0016	318.7	201.8
#2	-.0018	-.0005	.0014	-.0018	-.0016	.0024	.0018	319.4	204.5
#3	-.0012	-.0007	.0022	-.0011	.0008	.0023	-.0013	316.9	204.1
Check ?	None	None	None	None	None	None	None	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**202.2**	**311.0**	**205.2**	**206.8**	**.0060**	**.0013**	**.0361**	**-.0026**	**-.0001**
Stddev	1.9	.5	.4	1.2	.0005	.0003	.0014	.0009	.0001
%RSD	.9523	.1553	.1897	.5753	7.970	20.84	3.868	33.77	100.1
#1	204.2	311.5	205.5	208.2	.0065	.0011	.0374	-.0031	-.0002
#2	200.4	310.5	204.8	206.4	.0057	.0016	.0364	-.0016	-.0002
#3	202.2	311.1	205.3	206.0	.0057	.0012	.0346	-.0031	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None	None	None	None
Value									
Range									

Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/22/2019 11:54:10 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0006**	**.0011**	**.0001**	**.0057**	**-.0033**	**.0080**	**.0172**
Stddev	.0004	.0007	.0002	.0004	.0008	.0023	.0015
%RSD	73.53	64.47	135.7	6.907	24.74	28.40	8.664
#1	-.0007	.0018	.0002	.0060	-.0042	.0055	.0179
#2	-.0009	.0004	.0003	.0052	-.0027	.0099	.0155
#3	-.0001	.0011	-.0001	.0058	-.0030	.0087	.0182
Check ?	None	None	None	None	None	None	None
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**126850.**	**25036.**	**5870.1**	**8269.7**
Stddev	164.	152.	4.3	3.6
%RSD	.12899	.60801	.07261	.04296
#1	126870.	24937.	5869.0	8271.2
#2	127000.	25211.	5866.4	8265.6
#3	126680.	24961.	5874.8	8272.3

Zoom In Zoom Out

Sample Name: FECONF Acquired: 4/22/2019 11:59:45 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0000**	**-.0003**	**.0013**	**-.0008**	**-.0034**	**.0023**	**-.0000**
Stddev	.0002	.0000	.0002	.0003	.0002	.0009	.0003	.0002
%RSD	65.57	369.1	62.17	18.72	23.59	25.99	12.40	1428.
#1	-.0005	.0000	-.0003	.0013	-.0010	-.0036	.0021	-.0003
#2	-.0002	-.0001	-.0005	.0016	-.0007	-.0043	.0021	.0001
#3	-.0002	-.0000	-.0001	.0011	-.0007	-.0025	.0026	.0001

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0041**	**-.0014**	**-.0009**	**-.0008**	F **-.0040**	**.0017**	**-.0001**	**.0018**
Stddev	.0005	.0001	.0001	.0010	.0014	.0002	.0015	.0015
%RSD	12.99	10.13	8.838	129.0	35.65	13.62	2275.	86.41
#1	.0040	-.0015	-.0009	-.0016	-.0026	.0016	-.0003	.0005
#2	.0036	-.0012	-.0008	-.0011	-.0055	.0019	-.0014	.0034
#3	.0047	-.0014	-.0010	.0004	-.0039	.0015	.0015	.0014

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0125**	**.0068**	F **215.7**	**-.0023**	**.3368**	**.1873**	**.0023**	**.0005**
Stddev	.0086	.0014	3.9	.0056	.0490	.0127	.0003	.0003
%RSD	68.69	21.18	1.786	241.1	14.56	6.762	11.28	66.02
#1	-.0144	.0081	213.0	-.0086	.3922	.2019	.0026	.0001
#2	-.0031	.0070	213.9	.0020	.2988	.1806	.0021	.0006
#3	-.0200	.0052	220.1	-.0003	.3195	.1794	.0022	.0007

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0133**	**.0002**	**.0000**	**.0005**	**.0037**	**-.0008**	**-.0052**	**.0015**
Stddev	.0018	.0001	.0001	.0002	.0013	.0000	.0018	.0024
%RSD	13.58	43.41	463.8	28.88	34.64	1.063	34.79	164.6
#1	.0113	.0003	.0000	.0004	.0034	-.0008	-.0052	.0032
#2	.0139	.0002	.0001	.0007	.0051	-.0008	-.0034	.0026
#3	.0147	.0001	-.0001	.0005	.0026	-.0008	-.0071	-.0013

Zoom In Zoom Out

Sample Name: FECONF Acquired: 4/22/2019 11:59:45 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0169**	**.0014**
Stddev	.0023	.0021
%RSD	13.79	154.0
#1	-.0195	.0026
#2	-.0159	.0025
#3	-.0152	-.0011

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142310.**	**26402.**	**6429.9**	**9949.7**
Stddev	840.	51.	26.1	35.6
%RSD	.59011	.19349	.40566	.35781
#1	143110.	26358.	6402.4	9911.4
#2	142400.	26389.	6454.3	9981.8
#3	141440.	26458.	6432.9	9955.8

Zoom In Zoom Out

Sample Name: CRCONF Acquired: 4/22/2019 12:05:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0000**	**-.0002**	**-.0010**	F **9.666**	**.0003**	**-.0013**	**.0001**	**-.0005**
Stddev	.0005	.0000	.0001	.0001	.097	.0002	.0000	.0004	.0004
%RSD	166.9	77.21	33.86	5.600	1.001	50.30	1.149	260.0	83.28
#1	.0001	-.0000	-.0002	-.0011	9.769	.0001	-.0013	.0004	-.0008
#2	-.0001	-.0001	-.0001	-.0010	9.651	.0004	-.0013	.0003	-.0000
#3	-.0009	-.0000	-.0002	-.0010	9.577	.0004	-.0013	-.0003	-.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0117**	**.0030**	**.0024**	**-.0004**	**.0004**	**-.0026**	**.0017**	**-.0047**	**.0076**
Stddev	.0003	.0002	.0004	.0013	.0007	.0006	.0011	.0086	.0014
%RSD	2.240	5.730	18.64	302.5	178.0	21.32	65.45	180.8	17.82
#1	.0119	.0031	.0026	-.0013	.0009	-.0020	.0004	-.0058	.0065
#2	.0117	.0030	.0019	-.0010	-.0004	-.0030	.0021	.0043	.0072
#3	.0114	.0028	.0026	.0010	.0006	-.0029	.0024	-.0127	.0091

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**.0035**	**.2028**	**.1103**	**.0041**	**.0007**	**.0093**	**-.0005**	**.0001**
Stddev	.0005	.0115	.0173	.0047	.0003	.0002	.0003	.0001	.0001
%RSD	20.09	333.6	8.524	4.240	8.124	28.09	3.144	18.36	54.48
#1	.0024	-.0032	.1846	.1090	.0045	.0009	.0091	-.0005	.0002
#2	.0021	.0168	.2048	.1154	.0039	.0005	.0093	-.0005	.0000
#3	.0031	-.0032	.2190	.1063	.0039	.0006	.0097	-.0004	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0022**	**.0067**	**.0015**	**.0058**	**.0021**	**-.0025**	**-.0065**
Stddev	.0003	.0013	.0001	.0030	.0014	.0019	.0018
%RSD	14.10	19.23	7.384	52.66	66.21	77.52	27.77
#1	-.0018	.0052	.0016	.0065	.0005	-.0023	-.0066
#2	-.0023	.0075	.0014	.0024	.0030	-.0007	-.0046
#3	-.0024	.0074	.0015	.0083	.0028	-.0045	-.0082

Zoom In Zoom Out

Sample Name: CRCONF Acquired: 4/22/2019 12:05:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146800.**	**26449.**	**6401.3**	**10049.**
Stddev	775.	12.	35.3	43.
%RSD	.52820	.04417	.55219	.42404
#1	145990.	26441.	6436.6	10091.
#2	147540.	26462.	6365.9	10006.
#3	146880.	26444.	6401.3	10049.

Zoom In Zoom Out

Sample Name: ASCONF Acquired: 4/22/2019 12:10:17 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0001**	**.0002**	**-.0004**	**.0003**	**.0001**	**.0001**	**.0003**	**.0000**
Stddev	.0001	.0001	.0001	.0000	.0001	.0004	.0000	.0002	.0002
%RSD	184.0	155.3	80.83	9.473	30.21	307.0	34.94	59.81	429.1
#1	-.0001	-.0002	.0000	-.0004	.0004	-.0000	.0002	.0003	.0001
#2	.0001	.0000	.0003	-.0003	.0003	-.0002	.0001	.0005	-.0002
#3	-.0001	-.0000	.0002	-.0004	.0002	.0006	.0001	.0001	.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0001**	**5.476**	**-.0007**	**-.0001**	**-.0024**	**.0005**	**.0215**	**-.0536**
Stddev	.0001	.0000	.018	.0013	.0005	.0021	.0009	.0030	.0005
%RSD	31.76	24.21	.3349	180.6	342.0	87.50	179.5	14.10	.8869
#1	-.0002	-.0000	5.497	-.0017	-.0000	-.0001	.0010	.0248	-.0542
#2	-.0005	-.0000	5.466	.0008	.0003	-.0029	.0010	.0209	-.0533
#3	-.0004	-.0001	5.465	-.0012	-.0007	-.0041	-.0005	.0189	-.0534

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**-.0035**	**.1534**	**.0823**	**.0027**	**.0001**	**.0115**	**-.0005**	**-.0001**
Stddev	.0024	.0030	.0231	.0026	.0006	.0001	.0002	.0001	.0001
%RSD	166.3	85.40	15.09	3.192	23.84	46.16	2.024	25.70	170.0
#1	-.0011	-.0006	.1756	.0820	.0024	.0001	.0113	-.0004	.0000
#2	.0036	-.0034	.1294	.0851	.0022	.0001	.0115	-.0006	-.0000
#3	.0019	-.0065	.1551	.0798	.0034	.0002	.0118	-.0007	-.0002

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0004**	**.0001**	**.0001**	**.0015**	**-.0015**	**-.0048**
Stddev	.0005	.0008	.0001	.0015	.0012	.0012	.0010
%RSD	190.7	180.3	68.18	2216.	78.31	83.67	21.15
#1	.0007	-.0013	.0001	-.0012	.0002	-.0008	-.0060
#2	.0003	.0003	.0000	-.0003	.0020	-.0007	-.0041
#3	-.0002	-.0003	.0001	.0017	.0023	-.0029	-.0045

Zoom In Zoom Out

Sample Name: ASCONF Acquired: 4/22/2019 12:10:17 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**145710.**	**26506.**	**6607.3**	**10076.**
Stddev	260.	39.	8.4	14.
%RSD	.17830	.14790	.12662	.13908
#1	145640.	26538.	6598.3	10060.
#2	145490.	26518.	6614.9	10087.
#3	145990.	26462.	6608.8	10081.

Zoom In Zoom Out

Sample Name: CCV Acquired: 4/22/2019 12:15:22 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.030**	**2.017**	**2.011**	**2.048**	**2.005**	**1.995**	**2.020**	**2.056**	**.2489**
Stddev	.002	.003	.000	.001	.000	.003	.026	.001	.0004
%RSD	.1092	.1521	.0020	.0534	.0141	.1418	1.296	.0446	.1768
#1	2.031	2.020	2.011	2.050	2.005	1.997	2.001	2.056	.2494
#2	2.028	2.014	2.011	2.048	2.005	1.997	2.010	2.056	.2485
#3	2.032	2.015	2.011	2.047	2.005	1.992	2.050	2.055	.2489
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.005**	**2.034**	**2.024**	**2.098**	**2.047**	**2.020**	**2.018**	**39.76**	**40.11**
Stddev	.003	.000	.004	.006	.001	.003	.002	.03	.04
%RSD	.1334	.0037	.1748	.3004	.0518	.1627	.1025	.0772	.0935
#1	2.002	2.034	2.023	2.105	2.046	2.018	2.017	39.78	40.16
#2	2.006	2.034	2.021	2.097	2.048	2.023	2.020	39.73	40.09
#3	2.007	2.034	2.028	2.093	2.046	2.018	2.017	39.78	40.10
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.07**	**40.35**	**40.20**	**41.07**	**2.044**	**2.036**	**5.274**	**2.058**	**2.028**
Stddev	.05	.06	.08	.04	.002	.001	.005	.003	.001
%RSD	.1243	.1512	.1944	.0952	.0768	.0327	.0952	.1326	.0648
#1	40.12	40.42	40.26	41.12	2.044	2.036	5.274	2.061	2.029
#2	40.02	40.33	40.11	41.05	2.043	2.036	5.269	2.058	2.027
#3	40.07	40.30	40.22	41.05	2.046	2.035	5.279	2.056	2.028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 4/22/2019 12:15:22 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.030**	**1.999**	**2.046**	**2.010**	**2.043**	**1.972**	**2.159**
Stddev	.004	.002	.001	.003	.003	.002	.005
%RSD	.1839	.0840	.0671	.1400	.1637	.0897	.2313
#1	2.027	1.999	2.044	2.008	2.039	1.973	2.154
#2	2.029	1.998	2.046	2.009	2.046	1.970	2.159
#3	2.035	2.001	2.047	2.014	2.043	1.973	2.164
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**137940.**	**25991.**	**6293.0**	**9093.1**
Stddev	735.	46.	2.3	3.7
%RSD	.53295	.17576	.03703	.04067
#1	137820.	25966.	6295.7	9097.0
#2	138730.	26044.	6291.9	9089.6
#3	137280.	25964.	6291.4	9092.8

Zoom In Zoom Out

Sample Name: CCB Acquired: 4/22/2019 12:20:24 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0004**	**.0004**	**-.0000**	**.0005**	**.0006**	**.0004**	**.0004**	**.0002**
Stddev	.0000	.0000	.0001	.0002	.0002	.0001	.0000	.0002	.0002
%RSD	19.96	8.877	19.17	585.7	30.76	20.72	5.270	36.93	112.9
#1	.0000	.0004	.0004	-.0000	.0004	.0005	.0004	.0003	.0004
#2	.0000	.0004	.0003	-.0002	.0004	.0005	.0004	.0006	.0001
#3	.0000	.0003	.0004	.0001	.0007	.0007	.0004	.0005	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0004**	**-.0000**	**.0007**	**.0008**	**.0000**	**.0015**	**.0032**	**.0061**
Stddev	.0003	.0001	.0001	.0008	.0008	.0017	.0005	.0012	.0012
%RSD	247.0	19.89	693.3	111.9	99.76	4444.	33.44	39.02	19.37
#1	-.0005	.0005	.0001	-.0001	.0016	.0013	.0018	.0023	.0048
#2	.0001	.0003	.0000	.0008	.0009	.0008	.0018	.0046	.0068
#3	-.0000	.0004	-.0002	.0015	-.0000	-.0019	.0009	.0027	.0069
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0073**	**.0029**	**.2203**	**.1186**	**.0037**	**.0006**	**-.0006**	**.0003**	**.0003**
Stddev	.0004	.0052	.0346	.0123	.0005	.0002	.0006	.0001	.0001
%RSD	5.699	183.4	15.69	10.35	12.87	33.26	107.7	23.89	26.41
#1	.0073	.0088	.2095	.1219	.0040	.0008	.0001	.0002	.0003
#2	.0069	.0010	.2590	.1288	.0039	.0005	-.0011	.0004	.0004
#3	.0078	-.0012	.1924	.1050	.0031	.0004	-.0007	.0003	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 4/22/2019 12:20:24 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0008**	**.0005**	**.0017**	**.0021**	**-.0029**	**-.0048**
Stddev	.0001	.0008	.0002	.0014	.0022	.0027	.0013
%RSD	19.67	93.68	34.56	82.47	103.3	95.32	27.23
#1	.0006	.0014	.0005	.0032	.0046	-.0036	-.0063
#2	.0005	-.0001	.0006	.0004	.0002	-.0051	-.0040
#3	.0008	.0013	.0003	.0016	.0017	.0002	-.0041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146690.**	**26459.**	**6599.8**	**10089.**
Stddev	314.	151.	13.0	15.
%RSD	.21420	.56947	.19764	.15129
#1	146450.	26298.	6611.0	10105.
#2	146560.	26597.	6585.5	10075.
#3	147050.	26481.	6602.9	10086.

Zoom In Zoom Out

Sample Name: sampleconf Acquired: 4/22/2019 12:25:33 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0046**	**.0011**	**.0011**	**.0031**	**.0025**	**.0004**	**.0036**	**.0046**	**-.0002**
Stddev	.0003	.0001	.0002	.0002	.0004	.0002	.0000	.0003	.0002
%RSD	6.509	5.065	19.97	5.894	14.47	44.07	1.347	7.254	92.69
#1	.0050	.0010	.0010	.0030	.0029	.0003	.0036	.0043	-.0003
#2	.0045	.0011	.0014	.0033	.0023	.0003	.0037	.0049	.0000
#3	.0044	.0012	.0010	.0030	.0024	.0006	.0036	.0046	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0018**	**.0118**	**.0045**	**.0027**	**.0009**	**.0031**	**.0015**	**.1137**	**1.154**
Stddev	.0002	.0001	.0008	.0001	.0008	.0010	.0007	.0054	.002
%RSD	12.82	.9408	18.70	2.697	88.49	30.96	44.65	4.787	.1801
#1	.0021	.0120	.0037	.0028	.0009	.0043	.0018	.1136	1.157
#2	.0018	.0118	.0054	.0027	.0001	.0026	.0020	.1193	1.152
#3	.0016	.0118	.0046	.0026	.0017	.0025	.0007	.1084	1.154

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.1286**	**2.335**	**1.260**	**.0027**	**.0003**	**.0039**	**-.0005**	**.0000**
Stddev	.0014	.0072	.029	.006	.0001	.0001	.0006	.0004	.0001
%RSD	137.8	5.597	1.228	.5048	2.081	30.26	16.25	67.53	215.3
#1	.0022	.1203	2.306	1.259	.0027	.0002	.0046	-.0002	.0001
#2	-.0006	.1326	2.335	1.266	.0026	.0003	.0033	-.0009	.0001
#3	.0015	.1329	2.363	1.254	.0027	.0003	.0040	-.0005	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0011**	**.0002**	**-.0008**	**.0008**	**-.0018**	**-.0024**
Stddev	.0001	.0006	.0001	.0004	.0013	.0004	.0021
%RSD	879.2	52.81	62.20	52.01	158.3	21.38	86.23
#1	-.0001	-.0014	.0002	-.0003	-.0004	-.0014	-.0047
#2	-.0001	-.0004	.0001	-.0010	.0022	-.0019	-.0018
#3	.0001	-.0015	.0003	-.0012	.0008	-.0021	-.0007

Zoom In Zoom Out

Sample Name: sampleconf Acquired: 4/22/2019 12:25:33 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**145100.**	**26270.**	**6541.0**	**9944.1**
Stddev	317.	114.	19.3	24.3
%RSD	.21832	.43287	.29575	.24432
#1	145240.	26142.	6518.9	9916.2
#2	144740.	26361.	6554.6	9960.8
#3	145320.	26307.	6549.5	9955.1

Zoom In Zoom Out

Sample Name: mp14316-mb1conf Acquired: 4/22/2019 12:30:37 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0035**	**.0038**	**.0037**	**.0034**	**.0035**	**.0038**	**.0037**	**.0036**	**-.0002**
Stddev	.0005	.0003	.0001	.0003	.0002	.0004	.0002	.0003	.0002
%RSD	15.80	8.783	3.320	10.09	6.141	9.542	5.452	9.498	81.53
#1	.0039	.0042	.0038	.0033	.0033	.0034	.0035	.0039	-.0001
#2	.0037	.0037	.0037	.0037	.0035	.0039	.0037	.0036	-.0001
#3	.0028	.0035	.0036	.0030	.0038	.0041	.0039	.0033	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**.0052**	**.0040**	**.0049**	**.0035**	**.0015**	**.0044**	**.0456**	**.0584**
Stddev	.0001	.0003	.0003	.0007	.0006	.0015	.0013	.0104	.0046
%RSD	4.964	5.100	6.293	15.23	18.25	100.1	30.51	22.91	7.869
#1	.0026	.0054	.0043	.0051	.0033	.0020	.0058	.0576	.0631
#2	.0024	.0052	.0039	.0055	.0042	.0026	.0032	.0385	.0580
#3	.0023	.0049	.0039	.0040	.0030	-.0002	.0042	.0406	.0540

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0489**	**.0466**	**.1246**	**.0853**	**.0053**	**.0036**	**.0009**	**.0024**	**.0039**
Stddev	.0035	.0151	.0103	.0112	.0006	.0002	.0010	.0008	.0004
%RSD	7.156	32.37	8.304	13.11	11.00	5.400	110.0	33.77	10.89
#1	.0508	.0576	.1221	.0894	.0059	.0038	.0006	.0030	.0043
#2	.0510	.0294	.1360	.0726	.0052	.0037	.0001	.0027	.0039
#3	.0448	.0529	.1158	.0938	.0048	.0034	.0020	.0015	.0034

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0036**	**.0021**	**.0025**	**.0052**	**.0020**	**-.0043**	**.0058**
Stddev	.0002	.0003	.0002	.0028	.0005	.0030	.0020
%RSD	4.812	13.87	6.749	53.51	22.58	69.43	33.89
#1	.0034	.0020	.0025	.0050	.0015	-.0061	.0077
#2	.0038	.0024	.0023	.0081	.0022	-.0009	.0058
#3	.0036	.0019	.0026	.0025	.0023	-.0059	.0038

Zoom In Zoom Out

Sample Name: mp14316-mb1conf Acquired: 4/22/2019 12:30:37 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**150310.**	**27248.**	**6746.6**	**10405.**
Stddev	1391.	58.	11.8	11.
%RSD	.92523	.21455	.17487	.10458
#1	149590.	27309.	6743.1	10397.
#2	151910.	27192.	6737.0	10400.
#3	149420.	27243.	6759.8	10417.

Zoom In Zoom Out

Sample Name: mp14316-b1conf Acquired: 4/22/2019 12:35:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.066**	**2.036**	**2.092**	**2.064**	**2.027**	**2.031**	**2.075**	**2.077**	**.0871**
Stddev	.004	.004	.000	.001	.006	.005	.010	.000	.0003
%RSD	.1940	.1717	.0142	.0573	.2926	.2470	.4918	.0006	.3870
#1	2.066	2.036	2.092	2.063	2.021	2.025	2.065	2.077	.0868
#2	2.070	2.040	2.092	2.065	2.027	2.033	2.075	2.077	.0870
#3	2.062	2.033	2.093	2.064	2.032	2.034	2.085	2.077	.0874

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.015**	**2.079**	**2.104**	**2.184**	**2.092**	**2.124**	**2.145**	**25.70**	**25.94**
Stddev	.004	.003	.004	.014	.003	.002	.003	.05	.04
%RSD	.2091	.1243	.1750	.6350	.1630	.0738	.1361	.1789	.1548
#1	2.010	2.082	2.101	2.168	2.092	2.123	2.148	25.69	25.92
#2	2.016	2.077	2.108	2.188	2.095	2.126	2.144	25.75	25.98
#3	2.018	2.078	2.104	2.194	2.088	2.124	2.143	25.66	25.91

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.86**	**26.08**	**25.84**	**26.62**	**2.114**	**2.097**	**.0056**	**2.147**	**2.055**
Stddev	.03	.03	.03	.03	.002	.003	.0006	.005	.004
%RSD	.1210	.1118	.1163	.1277	.0791	.1481	11.52	.2255	.1824
#1	25.85	26.08	25.83	26.61	2.115	2.094	.0055	2.142	2.052
#2	25.90	26.11	25.82	26.66	2.115	2.098	.0062	2.147	2.059
#3	25.84	26.05	25.88	26.60	2.112	2.100	.0050	2.152	2.053

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.078**	**1.960**	**2.096**	**.0237**	**.1259**	**-.0027**	**2.060**
Stddev	.003	.010	.004	.0013	.0015	.0011	.009
%RSD	.1464	.5312	.2047	5.644	1.157	40.15	.4217
#1	2.075	1.948	2.092	.0248	.1243	-.0031	2.050
#2	2.078	1.963	2.097	.0240	.1271	-.0036	2.065
#3	2.081	1.968	2.100	.0222	.1263	-.0015	2.065

Zoom In Zoom Out

Sample Name: mp14316-b1conf Acquired: 4/22/2019 12:35:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**141880.**	**26440.**	**6444.6**	**9429.6**
Stddev	456.	172.	18.3	19.0
%RSD	.32135	.64920	.28421	.20107
#1	142370.	26576.	6425.2	9408.5
#2	141790.	26497.	6461.5	9445.2
#3	141470.	26247.	6447.0	9435.2

Zoom In Zoom Out

Sample Name: mp14316-s1conf Acquired: 4/22/2019 12:40:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.379**	**1.926**	**2.003**	**2.021**	**1.916**	**1.858**	**2.231**	**2.051**	**.0830**
Stddev	.004	.004	.014	.011	.003	.006	.004	.011	.0012
%RSD	.1545	.2175	.6738	.5307	.1677	.3014	.1910	.5334	1.504
#1	2.375	1.921	1.993	2.010	1.916	1.855	2.226	2.042	.0830
#2	2.383	1.928	1.998	2.021	1.920	1.865	2.234	2.047	.0842
#3	2.379	1.929	2.019	2.032	1.913	1.855	2.232	2.063	.0817

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.925**	**2.021**	**2.041**	**2.037**	**2.020**	**1.998**	**2.033**	**24.97**	**945.5**
Stddev	.007	.013	.025	.026	.017	.023	.016	.06	15.7
%RSD	.3519	.6350	1.210	1.277	.8479	1.161	.7840	.2339	1.662
#1	1.918	2.010	2.015	2.015	2.002	1.977	2.017	24.91	939.1
#2	1.932	2.017	2.044	2.030	2.024	1.996	2.034	25.03	934.1
#3	1.924	2.035	2.064	2.066	2.035	2.023	2.049	24.98	963.5

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.12**	**29.46**	**55.73**	**547.4**	**2.039**	**2.033**	**2.364**	**2.036**	**7.999**
Stddev	.04	.12	.46	7.5	.016	.013	.015	.014	.011
%RSD	.1421	.4102	.8238	1.371	.7811	.6374	.6398	.6765	.1413
#1	26.09	29.43	55.31	556.1	2.022	2.022	2.349	2.026	7.986
#2	26.11	29.36	55.64	543.3	2.040	2.030	2.364	2.030	8.006
#3	26.16	29.59	56.22	542.9	2.054	2.048	2.379	2.052	8.006

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.964**	**1.952**	**1.976**	**10.47**	**.1274**	**.1140**	**2.116**
Stddev	.005	.011	.004	.09	.0068	.0054	.036
%RSD	.2784	.5670	.2150	.8579	5.356	4.700	1.725
#1	1.958	1.946	1.972	10.41	.1309	.1159	2.079
#2	1.968	1.945	1.980	10.42	.1318	.1181	2.116
#3	1.966	1.965	1.975	10.57	.1196	.1079	2.152

Zoom In Zoom Out

Sample Name: mp14316-s1conf Acquired: 4/22/2019 12:40:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**135790.**	**25805.**	**6143.0**	**8751.2**
Stddev	760.	190.	1.9	4.6
%RSD	.55988	.73715	.03172	.05217
#1	135460.	25828.	6144.7	8756.1
#2	135250.	25982.	6140.8	8747.1
#3	136660.	25604.	6143.4	8750.5

Zoom In Zoom Out

Sample Name: mp14316-s2conf Acquired: 4/22/2019 12:45:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.274**	**1.837**	**2.030**	**2.050**	**1.891**	**1.818**	**2.205**	**2.071**	**.0826**
Stddev	.033	.025	.023	.025	.027	.024	.025	.026	.0002
%RSD	1.442	1.335	1.116	1.203	1.405	1.294	1.146	1.247	.2410
#1	2.242	1.815	2.007	2.025	1.864	1.791	2.179	2.044	.0826
#2	2.270	1.833	2.032	2.051	1.893	1.828	2.207	2.074	.0825
#3	2.308	1.864	2.052	2.075	1.917	1.834	2.229	2.095	.0829

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.899**	**2.053**	**2.068**	**2.061**	**2.043**	**2.031**	**2.065**	**23.73**	**889.8**
Stddev	.024	.029	.037	.031	.033	.022	.028	.39	11.3
%RSD	1.247	1.397	1.801	1.517	1.597	1.081	1.355	1.647	1.268
#1	1.875	2.024	2.031	2.032	2.015	2.007	2.040	23.37	890.7
#2	1.901	2.054	2.069	2.057	2.036	2.036	2.060	23.67	878.1
#3	1.922	2.081	2.105	2.094	2.079	2.050	2.095	24.14	900.6

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.80**	**27.98**	**53.69**	**522.5**	**2.065**	**2.066**	**2.389**	**2.071**	**7.629**
Stddev	.33	.39	.68	10.2	.028	.028	.046	.033	.102
%RSD	1.330	1.398	1.266	1.955	1.367	1.370	1.930	1.587	1.333
#1	24.47	27.69	53.03	511.4	2.036	2.036	2.341	2.036	7.531
#2	24.79	27.83	53.67	524.6	2.066	2.069	2.392	2.076	7.622
#3	25.13	28.43	54.38	531.5	2.092	2.093	2.433	2.101	7.734

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.941**	**1.939**	**1.955**	**10.58**	**.1199**	**.1005**	**2.133**
Stddev	.024	.020	.024	.19	.0049	.0061	.030
%RSD	1.248	1.044	1.250	1.781	4.092	6.038	1.386
#1	1.916	1.919	1.929	10.41	.1221	.0970	2.109
#2	1.945	1.940	1.961	10.55	.1143	.0971	2.123
#3	1.964	1.959	1.977	10.78	.1234	.1075	2.166

Zoom In Zoom Out

Sample Name: mp14316-s2conf Acquired: 4/22/2019 12:45:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**136320.**	**25922.**	**6134.7**	**8759.1**
Stddev	92.	118.	20.4	21.9
%RSD	.06713	.45697	.33218	.24978
#1	136390.	26035.	6147.1	8766.4
#2	136360.	25932.	6145.7	8776.4
#3	136220.	25799.	6111.1	8734.5

Zoom In Zoom Out

Sample Name: jc86267-1conf Acquired: 4/22/2019 12:50:48 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4231**	**-.0000**	**-.0008**	**-.0009**	**.0090**	**.0140**	**.2599**	**.0129**	**.0003**
Stddev	.0018	.0002	.0006	.0011	.0014	.0006	.0010	.0026	.0023
%RSD	.4301	1876.	80.53	121.5	15.30	4.206	.3855	20.19	802.9
#1	.4210	-.0002	-.0001	-.0005	.0076	.0145	.2587	.0133	-.0023
#2	.4238	-.0000	-.0010	-.0001	.0103	.0134	.2606	.0102	.0021
#3	.4244	.0002	-.0014	-.0021	.0091	.0142	.2602	.0154	.0011

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**.0199**	**-.0019**	**.0034**	**.0080**	**-.0045**	**.0013**	**.6094**	**861.9**
Stddev	.0027	.0009	.0028	.0009	.0009	.0064	.0052	.0344	9.2
%RSD	302.5	4.489	150.7	25.46	11.72	143.0	401.7	5.637	1.062
#1	.0037	.0192	-.0031	.0043	.0071	-.0115	.0029	.5798	851.3
#2	-.0017	.0195	.0014	.0026	.0090	-.0027	-.0045	.6014	867.6
#3	.0006	.0209	-.0039	.0034	.0078	.0009	.0055	.6471	866.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.551**	**5.011**	**29.61**	**500.4**	**.0302**	**.0090**	**2.116**	**-.0040**	**5.773**
Stddev	.011	.043	.27	3.4	.0021	.0014	.036	.0033	.044
%RSD	.7212	.8485	.9008	.6739	7.034	15.35	1.703	82.56	.7595
#1	1.541	4.966	29.30	496.9	.0319	.0080	2.080	-.0076	5.725
#2	1.550	5.014	29.70	500.7	.0308	.0084	2.117	-.0010	5.785
#3	1.563	5.051	29.81	503.7	.0278	.0106	2.152	-.0035	5.810

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0027**	**.0243**	**.0020**	**10.17**	**.0088**	**.1182**	**.0523**
Stddev	.0008	.0035	.0003	.24	.0025	.0064	.0122
%RSD	27.95	14.26	16.38	2.399	27.98	5.423	23.39
#1	.0035	.0264	.0024	9.927	.0096	.1221	.0591
#2	.0026	.0203	.0020	10.17	.0060	.1108	.0381
#3	.0020	.0261	.0017	10.41	.0108	.1218	.0595

Zoom In Zoom Out

Sample Name: jc86267-1conf Acquired: 4/22/2019 12:50:48 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**136930.**	**25878.**	**6127.4**	**8773.3**
Stddev	294.	23.	53.1	82.8
%RSD	.21503	.08823	.86627	.94427
#1	136680.	25854.	6159.4	8827.5
#2	136860.	25899.	6156.7	8814.3
#3	137250.	25883.	6066.1	8677.9

Zoom In Zoom Out

Sample Name: mp14316-sd1conf Acquired: 4/22/2019 12:56:00 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4649**	**-.0011**	**-.0040**	**-.0052**	**.0130**	**.0221**	**.2864**	**.0167**	**.0039**
Stddev	.0031	.0016	.0067	.0036	.0055	.0109	.0004	.0055	.0187
%RSD	.6700	144.6	166.4	68.39	41.92	48.99	.1417	32.86	477.6
#1	.4658	-.0014	.0035	-.0086	.0142	.0338	.2865	.0108	-.0088
#2	.4615	.0006	-.0092	-.0056	.0071	.0202	.2867	.0217	.0254
#3	.4675	-.0026	-.0063	-.0015	.0178	.0124	.2859	.0177	-.0049

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0070**	**.0288**	**.0041**	**.0084**	**.0198**	**-.0902**	**-.0110**	**.5063**	**978.4**
Stddev	.0104	.0024	.0226	.0175	.0192	.0486	.0346	.1815	1.5
%RSD	147.5	8.187	555.6	208.6	96.96	53.93	313.5	35.85	.1554
#1	-.0049	.0315	.0062	.0083	.0110	-.1277	-.0188	.6661	976.6
#2	-.0183	.0271	.0256	-.0091	.0418	-.1077	.0268	.5440	979.4
#3	.0021	.0278	-.0195	.0260	.0066	-.0352	-.0411	.3090	979.1

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.715**	**5.648**	**35.81**	**568.1**	**.0717**	**.0130**	**2.215**	**-.0089**	**6.349**
Stddev	.052	.249	1.25	.8	.0120	.0075	.021	.0076	.009
%RSD	3.051	4.401	3.506	.1343	16.70	57.64	.9490	84.87	.1347
#1	1.667	5.544	34.36	567.4	.0848	.0046	2.191	-.0060	6.348
#2	1.771	5.468	36.47	568.9	.0689	.0152	2.228	-.0033	6.358
#3	1.708	5.931	36.59	568.2	.0613	.0191	2.225	-.0175	6.341

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0013**	**.0843**	**.0103**	**10.37**	**.0594**	**.0653**	**.1330**
Stddev	.0063	.0121	.0016	.02	.0097	.0213	.0398
%RSD	500.4	14.40	15.48	.1479	16.38	32.60	29.95
#1	.0037	.0739	.0112	10.39	.0670	.0660	.0873
#2	-.0084	.0814	.0084	10.36	.0484	.0436	.1599
#3	.0009	.0976	.0112	10.38	.0628	.0862	.1519

Zoom In Zoom Out

Sample Name: mp14316-sd1conf Acquired: 4/22/2019 12:56:00 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142670.**	**26105.**	**6399.5**	**9437.3**
Stddev	68.	122.	14.2	15.2
%RSD	.04798	.46819	.22149	.16129
#1	142590.	26094.	6396.8	9425.9
#2	142710.	26232.	6386.8	9431.5
#3	142710.	25989.	6414.8	9454.6

Zoom In Zoom Out

Sample Name: mp14275-mb1conf Acquired: 4/22/2019 13:01:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0000**	**-.0002**	**-.0000**	**.0015**	**.0018**	**.0006**	**.0005**	**-.0002**
Stddev	.0004	.0000	.0001	.0001	.0002	.0002	.0000	.0002	.0003
%RSD	190.2	21660.	28.38	520.7	13.04	8.282	6.074	46.44	110.7
#1	.0006	-.0001	-.0003	-.0000	.0015	.0019	.0006	.0005	-.0005
#2	.0001	.0000	-.0002	.0001	.0014	.0017	.0005	.0007	-.0002
#3	-.0001	.0000	-.0001	-.0001	.0018	.0020	.0006	.0002	-.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0103**	**-.0008**	**-.0003**	**.0012**	**-.0010**	**.0008**	**.0168**	**.0779**
Stddev	.0003	.0001	.0013	.0003	.0005	.0023	.0012	.0070	.0026
%RSD	91.77	1.066	153.7	102.3	42.85	219.3	150.6	41.51	3.299
#1	-.0001	.0103	.0005	-.0005	.0014	-.0028	-.0006	.0159	.0805
#2	-.0001	.0104	-.0021	-.0002	.0006	.0015	.0017	.0241	.0778
#3	-.0006	.0102	-.0009	-.0000	.0016	-.0018	.0014	.0103	.0754

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0369**	**.0083**	**.1876**	**.1844**	**.0020**	**.0004**	**.0243**	**.0200**	**.0007**
Stddev	.0001	.0081	.0194	.0092	.0003	.0001	.0006	.0002	.0001
%RSD	.3384	97.59	10.34	4.962	15.35	19.39	2.388	.9887	11.53
#1	.0368	.0055	.1704	.1852	.0017	.0003	.0237	.0197	.0008
#2	.0370	.0020	.2086	.1931	.0022	.0005	.0249	.0200	.0007
#3	.0370	.0175	.1839	.1749	.0022	.0004	.0243	.0201	.0006

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**.0010**	**.0002**	**.0062**	**.0013**	**-.0023**	**.0269**
Stddev	.0003	.0008	.0002	.0018	.0013	.0005	.0009
%RSD	21.02	76.62	81.52	28.83	94.87	24.02	3.317
#1	.0018	.0012	.0001	.0077	.0028	-.0021	.0261
#2	.0017	.0016	.0001	.0042	.0003	-.0029	.0267
#3	.0012	.0002	.0004	.0065	.0009	-.0019	.0278

Zoom In Zoom Out

Sample Name: mp14275-mb1conf Acquired: 4/22/2019 13:01:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**148520.**	**27002.**	**6670.8**	**10186.**
Stddev	186.	58.	11.9	19.
%RSD	.12535	.21390	.17826	.19130
#1	148310.	27012.	6682.3	10201.
#2	148660.	26940.	6671.5	10193.
#3	148580.	27054.	6658.5	10164.

Zoom In Zoom Out

Sample Name: mp14275-b1conf Acquired: 4/22/2019 13:06:13 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.998**	**1.991**	**1.978**	**2.005**	**1.964**	**1.961**	**2.018**	**2.013**	**.2631**
Stddev	.006	.006	.003	.001	.002	.001	.003	.001	.0007
%RSD	.3076	.3172	.1283	.0588	.0905	.0486	.1644	.0582	.2754
#1	1.997	1.991	1.979	2.006	1.962	1.961	2.014	2.012	.2636
#2	1.992	1.985	1.975	2.004	1.965	1.961	2.021	2.013	.2633
#3	2.004	1.997	1.980	2.005	1.965	1.963	2.019	2.015	.2622

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.946**	**2.004**	**2.019**	**2.110**	**2.017**	**1.972**	**2.035**	**24.81**	**25.12**
Stddev	.004	.001	.001	.009	.001	.005	.004	.08	.09
%RSD	.1883	.0679	.0540	.4094	.0494	.2654	.1709	.3359	.3428
#1	1.943	2.002	2.018	2.119	2.015	1.975	2.035	24.80	25.14
#2	1.950	2.004	2.019	2.108	2.017	1.966	2.032	24.74	25.03
#3	1.945	2.005	2.020	2.102	2.017	1.974	2.039	24.90	25.20

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.03**	**25.15**	**25.11**	**25.94**	**1.955**	**2.026**	**-.0256**	**2.096**	**1.994**
Stddev	.08	.12	.12	.05	.002	.001	.0009	.003	.003
%RSD	.3015	.4596	.4952	.1969	.1084	.0592	3.490	.1253	.1615
#1	25.03	25.23	25.13	25.93	1.954	2.025	-.0258	2.099	1.992
#2	24.96	25.02	24.98	25.89	1.954	2.025	-.0264	2.096	1.992
#3	25.11	25.21	25.23	25.99	1.958	2.027	-.0246	2.094	1.998

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.031**	**1.252**	**2.040**	**.0269**	**.1104**	**-.0042**	**1.968**
Stddev	.004	.007	.004	.0024	.0004	.0017	.009
%RSD	.1875	.5537	.2109	8.794	.3747	39.86	.4388
#1	2.028	1.248	2.036	.0274	.1099	-.0034	1.977
#2	2.035	1.249	2.044	.0243	.1107	-.0032	1.967
#3	2.031	1.260	2.042	.0289	.1106	-.0062	1.959

Zoom In Zoom Out

Sample Name: mp14275-b1conf Acquired: 4/22/2019 13:06:13 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**140910.**	**26406.**	**6399.3**	**9330.2**
Stddev	222.	277.	2.9	11.0
%RSD	.15750	1.0498	.04494	.11804
#1	140720.	26130.	6400.9	9331.9
#2	140860.	26684.	6396.0	9318.4
#3	141150.	26405.	6401.0	9340.2

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/22/2019 13:11:15 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0018**	F **-.0003**	F **-.0003**	F **-.0001**	F **.0001**	F **-.0034**	F **-.0000**	F **.0002**
Stddev	.0002	.0000	.0001	.0001	.0001	.0003	.0000	.0000
%RSD	10.11	12.22	35.69	152.2	54.81	8.167	148.8	1.625
#1	-.0016	-.0003	-.0003	-.0002	.0002	-.0034	-.0000	.0002
#2	-.0020	-.0003	-.0002	.0000	.0001	-.0031	.0000	.0002
#3	-.0018	-.0003	-.0004	-.0001	.0001	-.0037	-.0000	.0002
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0001**	F **-.0011**	F **.0002**	F **.0015**	F **.0014**	F **.0000**	F **-.0014**	F **-.0016**
Stddev	.0002	.0001	.0000	.0010	.0004	.0003	.0005	.0002
%RSD	253.4	11.89	19.92	63.89	26.39	669.9	34.57	12.30
#1	-.0002	-.0011	.0001	.0026	.0010	.0001	-.0016	-.0016
#2	.0001	-.0009	.0002	.0008	.0017	-.0003	-.0008	-.0014
#3	-.0002	-.0012	.0002	.0011	.0014	.0002	-.0017	-.0018
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.2500	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.0026**	F **-.0060**	F **-.0012**	F **-.0069**	F **.0274**	F **.0773**	F **.0021**	F **.0003**
Stddev	.0005	.0011	.0006	.0065	.0238	.0128	.0002	.0001
%RSD	19.09	19.08	49.43	94.21	86.98	16.55	11.40	40.35
#1	.0031	-.0047	-.0016	-.0127	.0175	.0634	.0018	.0003
#2	.0021	-.0066	-.0016	.0001	.0101	.0800	.0023	.0004
#3	.0027	-.0066	-.0005	-.0081	.0545	.0885	.0022	.0002
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	40.00	40.00	40.00	40.00	40.00	40.00	2.000	2.000
Range	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/22/2019 13:11:15 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0046**	F **-.0012**	F **.0001**	F **-.0000**	F **.0018**	F **.0003**	F **-.0040**	F **.0016**
Stddev	.0063	.0000	.0000	.0001	.0006	.0001	.0011	.0007
%RSD	136.6	2.947	43.66	150.1	32.72	23.45	26.25	45.74
#1	-.0083	-.0012	.0000	-.0001	.0018	.0002	-.0050	.0022
#2	.0027	-.0011	.0001	-.0001	.0023	.0004	-.0029	.0008
#3	-.0083	-.0012	.0001	.0000	.0012	.0003	-.0042	.0018
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	5.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
Range	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	F **.0064**	F **.0050**
Stddev	.0019	.0017
%RSD	29.78	33.70
#1	.0082	.0069
#2	.0065	.0040
#3	.0044	.0040
Check ?	Chk Fail	Chk Fail
Value	2.000	2.000
Range	-10.00%	-10.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**279990.**	**43378.**	**13787.**	**20250.**
Stddev	3866.	143.	44.	65.
%RSD	1.3806	.33030	.31689	.32134
#1	275640.	43342.	13760.	20213.
#2	283010.	43257.	13763.	20212.
#3	281330.	43536.	13837.	20325.

Zoom In Zoom Out

Sample Name: ccbconf Acquired: 4/22/2019 13:16:29 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0003**	**.0002**	**.0001**	**.0001**	**.0003**	**.0003**	**.0004**
Stddev	.0004	.0001	.0000	.0001	.0003	.0003	.0000	.0005
%RSD	88.13	30.95	18.87	181.4	208.4	96.63	13.01	114.7
#1	.0007	.0003	.0003	-.0001	-.0002	.0006	.0003	-.0001
#2	-.0000	.0004	.0002	.0001	.0004	-.0000	.0002	.0004
#3	.0007	.0002	.0003	.0001	.0002	.0004	.0003	.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0003**	**-.0003**	**.0009**	**.0005**	**-.0012**	**.0010**
Stddev	.0004	.0003	.0000	.0001	.0010	.0006	.0016	.0014
%RSD	601.6	253.1	6.205	22.53	108.9	110.6	135.8	140.3
#1	.0003	.0003	.0003	-.0003	-.0002	.0010	.0000	-.0003
#2	-.0004	.0003	.0003	-.0002	.0013	.0007	-.0006	.0008
#3	-.0001	-.0002	.0003	-.0002	.0016	-.0001	-.0029	.0025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0061**	**.0015**	**.0065**	**.0093**	**.1890**	**.1011**	**.0027**	**.0005**
Stddev	.0069	.0001	.0016	.0092	.0165	.0102	.0002	.0003
%RSD	114.4	9.951	24.58	98.69	8.750	10.06	6.234	66.47
#1	.0013	.0016	.0068	.0198	.2079	.1097	.0028	.0008
#2	-.0126	.0014	.0079	.0051	.1772	.1039	.0026	.0005
#3	-.0069	.0014	.0048	.0029	.1820	.0899	.0026	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Zoom In Zoom Out

Sample Name: ccbconf Acquired: 4/22/2019 13:16:29 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0004**	**.0003**	**.0005**	F **.0095**	**.0006**	**-.0011**	**.0015**
Stddev	.0005	.0008	.0000	.0001	.0005	.0002	.0002	.0013
%RSD	218.3	181.9	5.441	20.72	5.334	35.08	20.23	88.16
#1	.0003	.0006	.0003	.0004	.0100	.0007	-.0013	.0014
#2	-.0004	-.0004	.0003	.0006	.0090	.0006	-.0009	.0002
#3	-.0006	.0011	.0003	.0006	.0095	.0004	-.0012	.0029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit					.0050			
Low Limit					-.0050			

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	F **-.0049**	**.0062**
Stddev	.0030	.0019
%RSD	60.89	30.19
#1	-.0077	.0081
#2	-.0054	.0060
#3	-.0017	.0044
Check ?	Chk Fail	Chk Pass
High Limit	.0040	
Low Limit	-.0040	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144510.**	**26094.**	**6503.9**	**9946.8**
Stddev	300.	75.	4.8	.9
%RSD	.20757	.28876	.07333	.00952
#1	144710.	26114.	6506.1	9946.0
#2	144160.	26157.	6507.2	9947.8
#3	144650.	26010.	6498.5	9946.5

Zoom In Zoom Out

Sample Name: cridconf Acquired: 4/22/2019 13:21:38 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0044**	**.0011**	**.0011**	**.0028**	**.0023**	F **.0003**	**.0034**	**.0043**
Stddev	.0003	.0000	.0001	.0002	.0002	.0003	.0000	.0001
%RSD	7.349	3.535	11.67	6.420	6.776	111.6	.5817	2.889
#1	.0040	.0010	.0011	.0030	.0024	.0007	.0034	.0044
#2	.0045	.0011	.0013	.0027	.0021	.0001	.0034	.0044
#3	.0046	.0011	.0010	.0028	.0024	.0001	.0034	.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value						.0020		
Range						-20.00%		

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.0002**	**.0018**	**.0114**	**.0030**	F **.0028**	F **-.0003**	F **.0025**	F **.0001**
Stddev	.0003	.0003	.0000	.0003	.0009	.0006	.0008	.0002
%RSD	138.9	17.70	.0323	8.763	32.82	171.2	32.22	175.5
#1	-.0003	.0017	.0114	.0030	.0017	-.0008	.0016	.0003
#2	.0001	.0022	.0114	.0027	.0032	.0003	.0029	-.0001
#3	-.0006	.0015	.0114	.0032	.0034	-.0006	.0031	.0001
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.0020				.0020	.0025	.0050	.0030
Range	-20.00%				20.00%	-20.00%	-20.00%	-20.00%

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1143**	**1.130**	**.0004**	F **.1209**	F **2.405**	F **1.276**	**.0018**	**.0004**
Stddev	.0133	.005	.0024	.0059	.035	.010	.0004	.0001
%RSD	11.63	.4613	545.0	4.846	1.453	.7835	23.57	15.84
#1	.1187	1.125	.0027	.1160	2.385	1.265	.0014	.0004
#2	.0994	1.129	-.0021	.1194	2.445	1.284	.0022	.0004
#3	.1249	1.135	.0007	.1274	2.384	1.280	.0019	.0003
Check ?	Chk Pass	Chk Pass	None	Chk Fail	Chk Fail	Chk Fail	None	None
Value				.1000	2.000	1.000		
Range				20.00%	20.00%	20.00%		

Zoom In Zoom Out

Sample Name: cridconf Acquired: 4/22/2019 13:21:38 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0029**	**-.0003**	**-.0001**	**-.0001**	**.0062**	**-.0000**	**.0028**	**.0000**
Stddev	.0005	.0006	.0001	.0002	.0019	.0000	.0009	.0008
%RSD	16.99	175.5	79.98	208.3	30.93	175.5	33.40	2007.
#1	.0027	-.0009	-.0000	-.0002	.0048	.0000	.0038	-.0001
#2	.0034	-.0002	-.0001	.0001	.0083	-.0000	.0026	-.0007
#3	.0025	.0002	-.0000	-.0001	.0054	-.0000	.0020	.0009
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	**-.0055**	**.0158**
Stddev	.0005	.0012
%RSD	8.863	7.439
#1	-.0050	.0154
#2	-.0054	.0171
#3	-.0060	.0148
Check ?	None	None
Value		
Range		

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143750.**	**26046.**	**6492.2**	**9872.6**
Stddev	300.	156.	15.9	16.5
%RSD	.20873	.59998	.24423	.16730
#1	143600.	26180.	6487.5	9860.8
#2	143550.	26083.	6479.3	9865.4
#3	144090.	25874.	6509.9	9891.4

Zoom In Zoom Out

Sample Name: mp14275-s1conf Acquired: 4/22/2019 13:26:44 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.594**	**1.916**	**1.918**	**1.995**	**2.212**	**2.560**	**3.752**	**2.101**	**.2602**
Stddev	.007	.005	.001	.002	.003	.005	.024	.003	.0009
%RSD	.2643	.2436	.0678	.0998	.1267	.2067	.6342	.1232	.3398
#1	2.586	1.911	1.920	1.998	2.210	2.559	3.728	2.103	.2605
#2	2.599	1.919	1.918	1.994	2.215	2.565	3.775	2.098	.2609
#3	2.597	1.919	1.917	1.995	2.209	2.555	3.754	2.102	.2592

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.035**	**3.743**	**1.971**	**2.027**	**2.906**	**1.884**	**1.412**	**84.97**	**52.03**
Stddev	.000	.004	.004	.006	.002	.004	.003	.21	.13
%RSD	.0162	.0940	.2299	.3085	.0737	.1997	.1793	.2439	.2515
#1	2.035	3.748	1.966	2.025	2.905	1.887	1.415	84.74	51.88
#2	2.036	3.742	1.972	2.022	2.904	1.880	1.410	85.15	52.13
#3	2.035	3.741	1.975	2.034	2.908	1.885	1.411	85.00	52.09

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**135.3**	**48.70**	**34.94**	**46.76**	**1.886**	**1.903**	**2.051**	**2.141**	**2.098**
Stddev	.5	.07	.06	.03	.001	.003	.006	.001	.003
%RSD	.3550	.1384	.1656	.0734	.0768	.1448	.2993	.0484	.1529
#1	135.9	48.68	34.88	46.75	1.885	1.906	2.057	2.140	2.096
#2	135.2	48.77	34.99	46.80	1.888	1.901	2.050	2.140	2.102
#3	134.9	48.64	34.94	46.73	1.885	1.903	2.045	2.142	2.097

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.490**	**.8553**	**1.998**	**29.76**	**.2134**	**.0559**	F **9.552**
Stddev	.004	.0019	.001	.10	.0023	.0006	.041
%RSD	.0846	.2220	.0239	.3504	1.069	1.124	.4286
#1	4.489	.8569	1.998	29.74	.2154	.0556	9.598
#2	4.487	.8532	1.999	29.67	.2109	.0566	9.520
#3	4.494	.8557	1.999	29.87	.2138	.0555	9.538

Zoom In Zoom Out

Sample Name: mp14275-s1conf Acquired: 4/22/2019 13:26:44 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**141890.**	**27135.**	**6484.2**	**9111.0**
Stddev	466.	129.	7.5	17.6
%RSD	.32823	.47407	.11493	.19283
#1	142240.	27218.	6476.5	9098.3
#2	142080.	26987.	6491.4	9131.1
#3	141360.	27200.	6484.6	9103.7

Zoom In Zoom Out

Sample Name: mp14275-s2conf Acquired: 4/22/2019 13:31:51 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.646**	**1.891**	**1.890**	**1.978**	**2.216**	**2.493**	**3.811**	**2.083**	**.2618**
Stddev	.006	.004	.001	.001	.003	.003	.036	.001	.0009
%RSD	.2351	.2332	.0665	.0459	.1549	.1159	.9413	.0649	.3340
#1	2.651	1.895	1.889	1.976	2.217	2.494	3.847	2.082	.2621
#2	2.648	1.891	1.889	1.978	2.212	2.490	3.776	2.082	.2609
#3	2.639	1.886	1.891	1.978	2.219	2.496	3.808	2.084	.2626

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.020**	**3.843**	**1.949**	**1.997**	**3.049**	**1.857**	**1.397**	**87.20**	**52.52**
Stddev	.002	.002	.003	.005	.004	.006	.001	.06	.12
%RSD	.1184	.0411	.1327	.2768	.1340	.3074	.0684	.0649	.2327
#1	2.018	3.843	1.946	1.992	3.045	1.850	1.396	87.26	52.64
#2	2.019	3.842	1.950	1.995	3.050	1.860	1.398	87.19	52.53
#3	2.023	3.845	1.950	2.003	3.053	1.861	1.397	87.15	52.39

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**141.3**	**49.04**	**34.95**	**47.32**	**1.865**	**1.886**	**2.473**	**2.106**	**2.084**
Stddev	3.1	.05	.06	.05	.003	.001	.003	.001	.002
%RSD	2.164	.0943	.1678	.0970	.1358	.0465	.1319	.0300	.0837
#1	142.7	49.09	34.88	47.27	1.863	1.886	2.470	2.106	2.086
#2	137.8	49.01	34.99	47.33	1.864	1.885	2.476	2.106	2.085
#3	143.5	49.01	34.97	47.36	1.868	1.886	2.474	2.105	2.082

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.632**	**.9310**	**1.989**	**31.74**	**.2207**	**.0588**	F **10.24**
Stddev	.002	.0043	.001	.06	.0007	.0025	.05
%RSD	.0501	.4632	.0688	.1786	.3359	4.334	.4896
#1	4.629	.9341	1.990	31.67	.2215	.0617	10.26
#2	4.633	.9261	1.988	31.74	.2203	.0577	10.19
#3	4.634	.9329	1.990	31.79	.2202	.0569	10.28

Zoom In Zoom Out

Sample Name: mp14275-s2conf Acquired: 4/22/2019 13:31:51 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142670.**	**27418.**	**6551.0**	**9172.2**
Stddev	327.	54.	11.3	16.6
%RSD	.22936	.19620	.17312	.18139
#1	142970.	27476.	6548.2	9169.2
#2	142710.	27410.	6563.4	9190.1
#3	142320.	27369.	6541.2	9157.2

Zoom In Zoom Out

Sample Name: jc86246-10conf Acquired: 4/22/2019 13:36:58 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6133**	**.0024**	**.0183**	**.0410**	**.3164**	**.5391**	**1.782**	**.1372**	**.0161**
Stddev	.0226	.0001	.0001	.0004	.0084	.0153	.044	.0008	.0013
%RSD	3.677	2.675	.4779	.9115	2.666	2.843	2.464	.6154	7.915
#1	.5986	.0024	.0184	.0414	.3067	.5217	1.740	.1381	.0160
#2	.6022	.0024	.0183	.0408	.3203	.5451	1.777	.1366	.0149
#3	.6393	.0025	.0183	.0407	.3222	.5505	1.828	.1368	.0174

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1437**	**1.934**	**.0310**	**-.0004**	**1.124**	**.0021**	**.0078**	**44.74**	**24.27**
Stddev	.0041	.008	.0013	.0015	.005	.0007	.0016	1.58	.83
%RSD	2.852	.4073	4.288	351.0	.4545	33.65	21.02	3.528	3.419
#1	.1390	1.943	.0315	-.0011	1.130	.0014	.0094	43.73	23.75
#2	.1457	1.927	.0295	.0013	1.120	.0021	.0078	43.93	23.84
#3	.1464	1.932	.0320	-.0014	1.123	.0028	.0061	46.56	25.23

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**113.1**	**22.29**	**6.636**	**22.03**	**.0754**	**.0093**	**1.710**	**.2579**	**.1688**
Stddev	3.9	.71	.216	.77	.0006	.0002	.006	.0003	.0059
%RSD	3.490	3.182	3.248	3.504	.8051	2.420	.3670	.1264	3.479
#1	110.5	21.81	6.480	21.49	.0748	.0091	1.717	.2582	.1650
#2	111.1	21.95	6.546	21.68	.0754	.0092	1.706	.2580	.1659
#3	117.6	23.10	6.882	22.91	.0760	.0096	1.706	.2576	.1756

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.228**	**.0054**	**.0461**	**30.93**	**.0957**	**.0490**	F **8.108**
Stddev	.060	.0012	.0011	.17	.0046	.0025	.022
%RSD	2.692	22.92	2.407	.5590	4.856	5.100	.2765
#1	2.159	.0062	.0449	31.12	.0911	.0469	8.131
#2	2.254	.0061	.0463	30.77	.0957	.0483	8.086
#3	2.270	.0040	.0471	30.91	.1004	.0517	8.107

Zoom In Zoom Out

Sample Name: jc86246-10conf Acquired: 4/22/2019 13:36:58 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**148500.**	**27266.**	**6691.2**	**9497.9**
Stddev	3670.	661.	21.6	32.8
%RSD	2.4714	2.4226	.32331	.34499
#1	152720.	27697.	6668.6	9462.9
#2	146810.	27594.	6711.8	9527.8
#3	145980.	26505.	6693.3	9503.1

Zoom In Zoom Out

Sample Name: mp14275-sd1conf Acquired: 4/22/2019 13:42:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6096**	**.0023**	**.0183**	**.0408**	**.3329**	**.5510**	**1.893**	**.1364**	**.0143**
Stddev	.0043	.0001	.0004	.0007	.0075	.0128	.037	.0011	.0005
%RSD	.6998	6.032	2.362	1.789	2.244	2.320	1.950	.8177	3.745
#1	.6087	.0024	.0178	.0415	.3406	.5656	1.935	.1356	.0139
#2	.6059	.0021	.0186	.0408	.3257	.5421	1.867	.1377	.0149
#3	.6143	.0023	.0185	.0400	.3324	.5452	1.876	.1358	.0141

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1490**	**2.010**	**.0244**	**-.0019**	**1.143**	**-.0039**	**.0096**	**45.01**	**24.73**
Stddev	.0053	.004	.0058	.0028	.001	.0040	.0034	.25	.13
%RSD	3.547	.1741	23.73	146.3	.1245	102.2	35.07	.5471	.5247
#1	.1545	2.014	.0188	.0001	1.144	-.0060	.0057	44.99	24.69
#2	.1483	2.007	.0304	-.0007	1.141	-.0065	.0118	44.77	24.62
#3	.1440	2.009	.0240	-.0052	1.143	.0007	.0113	45.27	24.87

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**115.2**	**22.80**	**6.955**	**22.59**	**.0854**	**.0098**	**1.763**	**.2711**	**.1719**
Stddev	.7	.11	.072	.10	.0018	.0014	.003	.0009	.0013
%RSD	.6026	.4838	1.040	.4206	2.059	13.85	.1735	.3298	.7835
#1	115.0	22.74	7.033	22.63	.0842	.0091	1.761	.2714	.1716
#2	114.7	22.73	6.943	22.48	.0847	.0113	1.762	.2702	.1707
#3	116.0	22.92	6.890	22.66	.0874	.0088	1.766	.2719	.1733

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.303**	**.0156**	**.0480**	**31.57**	**.1045**	**.0459**	**8.678**
Stddev	.044	.0012	.0006	.06	.0078	.0074	.061
%RSD	1.928	7.611	1.326	.1861	7.505	16.15	.7074
#1	2.353	.0159	.0488	31.60	.1130	.0386	8.613
#2	2.271	.0166	.0478	31.51	.1029	.0534	8.686
#3	2.284	.0143	.0476	31.62	.0976	.0457	8.735

Zoom In Zoom Out

Sample Name: mp14275-sd1conf Acquired: 4/22/2019 13:42:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144990.**	**26944.**	**6646.4**	**9824.4**
Stddev	1800.	35.	11.4	15.4
%RSD	1.2414	.12921	.17205	.15683
#1	143010.	26942.	6633.9	9808.4
#2	146520.	26979.	6649.1	9825.4
#3	145450.	26910.	6656.3	9839.2

Zoom In Zoom Out

Sample Name: mp14275-ps1conf Acquired: 4/22/2019 13:47:02 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.567**	**1.946**	**2.008**	**2.084**	**2.251**	**2.516**	**3.689**	**2.188**	**.2556**
Stddev	.009	.005	.004	.004	.003	.003	.063	.005	.0002
%RSD	.3303	.2690	.2232	.1778	.1157	.1318	1.712	.2444	.0907
#1	2.558	1.940	2.004	2.080	2.248	2.512	3.618	2.181	.2555
#2	2.575	1.951	2.006	2.086	2.252	2.518	3.739	2.191	.2555
#3	2.569	1.947	2.013	2.087	2.253	2.517	3.710	2.191	.2559

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.085**	**3.827**	**2.089**	**2.118**	**3.138**	**2.007**	**2.036**	**67.59**	**48.08**
Stddev	.005	.013	.007	.001	.008	.003	.002	.21	.10
%RSD	.2604	.3382	.3272	.0643	.2467	.1586	.0884	.3053	.2158
#1	2.079	3.812	2.085	2.118	3.129	2.005	2.035	67.35	47.96
#2	2.087	3.829	2.085	2.120	3.141	2.011	2.035	67.74	48.14
#3	2.090	3.838	2.097	2.118	3.143	2.006	2.038	67.67	48.15

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**128.5**	**46.06**	**31.72**	**46.69**	**2.070**	**1.956**	**1.678**	**2.276**	**2.136**
Stddev	1.8	.10	.09	.16	.005	.005	.004	.008	.004
%RSD	1.409	.2208	.2895	.3410	.2593	.2521	.2293	.3378	.1945
#1	127.9	45.96	31.66	46.60	2.065	1.950	1.675	2.268	2.132
#2	127.0	46.06	31.82	46.61	2.069	1.958	1.676	2.278	2.138
#3	130.5	46.16	31.67	46.88	2.076	1.959	1.682	2.283	2.139

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.192**	**1.636**	**2.069**	**30.83**	**.2126**	**.0452**	F **10.47**
Stddev	.014	.006	.006	.04	.0012	.0002	.10
%RSD	.3407	.3905	.2720	.1166	.5679	.4416	.9227
#1	4.176	1.629	2.063	30.80	.2119	.0455	10.36
#2	4.196	1.639	2.072	30.87	.2120	.0452	10.53
#3	4.204	1.640	2.073	30.82	.2140	.0451	10.51

Zoom In Zoom Out

Sample Name: mp14275-ps1conf Acquired: 4/22/2019 13:47:02 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144080.**	**27515.**	**6557.9**	**9231.6**
Stddev	445.	157.	32.4	36.0
%RSD	.30856	.56924	.49430	.39002
#1	144360.	27566.	6590.8	9271.7
#2	144310.	27639.	6557.0	9221.2
#3	143570.	27339.	6525.9	9202.1

Zoom In Zoom Out

Sample Name: jc85722-36rconf Acquired: 4/22/2019 13:52:09 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.528**	**.0058**	**.0040**	**.0921**	**1.179**	**1.624**	**2.710**	**.1821**	**.0065**
Stddev	.008	.0000	.0003	.0005	.005	.005	.005	.0007	.0003
%RSD	.3114	.5840	6.899	.5161	.4170	.3416	.1854	.3776	5.247
#1	2.519	.0058	.0041	.0924	1.179	1.622	2.711	.1828	.0069
#2	2.533	.0058	.0037	.0915	1.174	1.619	2.705	.1814	.0065
#3	2.532	.0059	.0041	.0923	1.184	1.630	2.715	.1822	.0062

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2479**	**3.496**	**.1708**	**-.0009**	**9.299**	**.0070**	**.0030**	**94.55**	**27.09**
Stddev	.0006	.007	.0012	.0033	.016	.0007	.0018	.22	.07
%RSD	.2296	.2145	.6960	351.3	.1703	9.992	60.99	.2332	.2525
#1	.2473	3.497	.1701	.0001	9.302	.0076	.0020	94.32	27.02
#2	.2481	3.502	.1722	.0017	9.312	.0063	.0019	94.59	27.09
#3	.2484	3.488	.1701	-.0046	9.281	.0071	.0051	94.75	27.16

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**156.4**	**15.54**	**8.822**	**1.298**	**.0444**	**.0146**	**1.667**	**.2345**	**.3848**
Stddev	.3	.03	.043	.029	.0004	.0007	.005	.0016	.0009
%RSD	.2054	.2200	.4895	2.263	.9709	4.718	.3124	.6716	.2240
#1	156.1	15.55	8.778	1.328	.0443	.0150	1.667	.2338	.3841
#2	156.4	15.50	8.864	1.296	.0449	.0150	1.672	.2363	.3845
#3	156.7	15.56	8.825	1.270	.0440	.0138	1.661	.2334	.3858

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.696**	**.0326**	**.0526**	**2.202**	**.1159**	**.1229**	**7.355**
Stddev	.005	.0031	.0005	.008	.0015	.0027	.039
%RSD	.2036	9.356	.9899	.3598	1.306	2.157	.5325
#1	2.693	.0357	.0532	2.194	.1145	.1257	7.311
#2	2.693	.0327	.0523	2.210	.1156	.1204	7.366
#3	2.702	.0296	.0523	2.203	.1175	.1226	7.387

Zoom In Zoom Out

Sample Name: jc85722-36rconf Acquired: 4/22/2019 13:52:09 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147710.**	**27296.**	**6752.7**	**9703.1**
Stddev	365.	174.	19.7	27.8
%RSD	.24679	.63892	.29214	.28617
#1	147600.	27413.	6741.9	9692.6
#2	148110.	27379.	6740.7	9682.1
#3	147410.	27096.	6775.5	9734.5

Zoom In Zoom Out

Sample Name: jc75722-37rconf Acquired: 4/22/2019 13:57:06 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**30.00**	**.0042**	**.0028**	**.0896**	**.3947**	**1.281**	**3.728**	**.1952**	**.0129**
Stddev	.31	.0012	.0011	.0013	.0049	.005	.003	.0049	.0068
%RSD	1.038	27.56	37.65	1.397	1.246	.3956	.0911	2.521	53.15
#1	29.66	.0033	.0018	.0903	.3906	1.278	3.732	.1933	.0052
#2	30.27	.0055	.0027	.0882	.3935	1.279	3.728	.1916	.0152
#3	30.07	.0037	.0040	.0903	.4002	1.287	3.725	.2008	.0183

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2591**	**25.90**	**.1885**	**-.0053**	**186.5**	**-.0118**	**.0220**	**69.20**	**153.5**
Stddev	.0023	.02	.0227	.0190	.1	.0162	.0461	.81	1.5
%RSD	.8780	.0836	12.02	358.5	.0528	136.7	209.8	1.168	.9924
#1	.2583	25.91	.2126	-.0254	186.6	-.0279	.0746	68.27	151.8
#2	.2573	25.91	.1676	.0124	186.5	.0044	.0029	69.60	154.7
#3	.2617	25.87	.1853	-.0029	186.4	-.0119	-.0115	69.73	154.0

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**161.6**	**14.71**	**13.87**	**5.505**	**.0981**	**.0812**	**1.696**	**.6524**	**1.556**
Stddev	1.5	.15	.44	.171	.0062	.0041	.033	.0062	.015
%RSD	.9489	1.032	3.174	3.110	6.346	4.993	1.958	.9433	.9391
#1	159.9	14.54	13.46	5.562	.0922	.0793	1.670	.6549	1.542
#2	162.9	14.81	13.80	5.313	.0975	.0859	1.684	.6569	1.571
#3	162.0	14.79	14.34	5.641	.1046	.0784	1.733	.6454	1.555

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.676**	**.4014**	**.0406**	**8.666**	**.0605**	**-.0496**	**54.97**
Stddev	.010	.0074	.0062	.032	.0326	.0108	.66
%RSD	.5726	1.854	15.25	.3648	53.97	21.73	1.195
#1	1.687	.4100	.0386	8.687	.0966	-.0516	55.60
#2	1.669	.3975	.0475	8.681	.0515	-.0592	55.01
#3	1.671	.3968	.0356	8.629	.0332	-.0379	54.29

Zoom In Zoom Out

Sample Name: jc75722-37rconf Acquired: 4/22/2019 13:57:06 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146000.**	**26461.**	**6622.5**	**9938.6**
Stddev	754.	345.	12.9	16.7
%RSD	.51672	1.3023	.19494	.16813
#1	146810.	26833.	6610.0	9922.6
#2	145320.	26397.	6635.8	9955.9
#3	145880.	26152.	6621.7	9937.2

Zoom In Zoom Out

Sample Name: jc85722-39rconf Acquired: 4/22/2019 14:02:08 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.534**	**.0053**	**.0016**	**.0954**	**.4495**	**2.865**	**3.477**	**.2244**	**.0132**
Stddev	.008	.0003	.0004	.0010	.0020	.006	.006	.0012	.0013
%RSD	.5459	5.580	24.80	1.063	.4458	.1972	.1767	.5328	9.671
#1	1.530	.0054	.0018	.0943	.4472	2.870	3.484	.2243	.0118
#2	1.529	.0050	.0018	.0956	.4508	2.865	3.476	.2232	.0143
#3	1.544	.0056	.0011	.0963	.4506	2.859	3.471	.2256	.0136

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2668**	**3.897**	**.1761**	**-.0057**	**2.577**	**.0042**	**.0154**	**104.0**	**60.56**
Stddev	.0011	.002	.0018	.0044	.007	.0028	.0035	.5	.32
%RSD	.4233	.0603	1.048	77.39	.2611	67.05	22.67	.4952	.5248
#1	.2656	3.900	.1740	-.0013	2.569	.0024	.0150	103.8	60.42
#2	.2679	3.897	.1774	-.0056	2.581	.0027	.0121	103.6	60.34
#3	.2668	3.895	.1770	-.0101	2.581	.0074	.0190	104.6	60.93

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**639.7**	**22.75**	**13.70**	**5.661**	**.1039**	**.0369**	**3.458**	**.2966**	**.4720**
Stddev	11.0	.09	.16	.047	.0030	.0003	.017	.0000	.0017
%RSD	1.724	.4160	1.185	.8323	2.855	.6931	.4808	.0043	.3586
#1	636.0	22.65	13.66	5.671	.1005	.0367	3.477	.2966	.4712
#2	652.1	22.76	13.57	5.610	.1056	.0369	3.446	.2966	.4709
#3	631.0	22.84	13.88	5.702	.1057	.0372	3.452	.2967	.4740

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.236**	**.0302**	**.0651**	**3.553**	**.3541**	**.1286**	**6.058**
Stddev	.016	.0034	.0005	.015	.0038	.0048	.032
%RSD	.1906	11.32	.7299	.4204	1.076	3.747	.5277
#1	8.251	.0328	.0649	3.557	.3573	.1276	6.060
#2	8.220	.0315	.0656	3.537	.3499	.1338	6.024
#3	8.235	.0263	.0647	3.567	.3551	.1244	6.088

Zoom In Zoom Out

Sample Name: jc85722-39rconf Acquired: 4/22/2019 14:02:08 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143980.**	**26316.**	**6570.0**	**9715.4**
Stddev	466.	210.	4.8	3.4
%RSD	.32376	.79957	.07231	.03533
#1	143440.	26449.	6571.6	9718.6
#2	144170.	26425.	6564.7	9711.8
#3	144320.	26073.	6573.8	9715.7

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 14:07:19 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.054**	**2.025**	**2.027**	**2.056**	**2.018**	**2.009**	**2.060**	**2.067**	**.2505**
Stddev	.009	.009	.003	.002	.002	.003	.008	.001	.0001
%RSD	.4644	.4524	.1380	.0991	.1084	.1391	.3976	.0518	.0367
#1	2.063	2.034	2.030	2.059	2.019	2.009	2.050	2.068	.2505
#2	2.054	2.024	2.024	2.055	2.019	2.012	2.066	2.066	.2504
#3	2.044	2.016	2.027	2.055	2.015	2.007	2.062	2.068	.2506
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.016**	**2.045**	**2.035**	**2.107**	**2.058**	**2.037**	**2.035**	**40.08**	**40.38**
Stddev	.002	.001	.001	.008	.002	.005	.003	.19	.20
%RSD	.0829	.0688	.0694	.3902	.0744	.2283	.1486	.4688	.4992
#1	2.015	2.045	2.037	2.100	2.058	2.038	2.035	40.29	40.60
#2	2.018	2.046	2.034	2.105	2.057	2.032	2.032	40.04	40.34
#3	2.015	2.044	2.035	2.116	2.060	2.041	2.038	39.92	40.20
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.14**	**40.54**	**40.68**	**41.46**	**2.057**	**2.058**	**5.306**	**2.063**	**2.046**
Stddev	.18	.21	.21	.22	.003	.001	.011	.001	.008
%RSD	.4427	.5140	.5192	.5221	.1499	.0413	.2132	.0569	.3910
#1	40.32	40.77	40.90	41.64	2.061	2.057	5.316	2.063	2.052
#2	40.13	40.48	40.66	41.52	2.057	2.058	5.294	2.063	2.048
#3	39.96	40.37	40.48	41.22	2.055	2.059	5.308	2.061	2.037
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 14:07:19 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.044**	**2.016**	**2.060**	**1.991**	**2.059**	**1.983**	**1.916**
Stddev	.001	.002	.003	.009	.004	.008	.028
%RSD	.0598	.1053	.1300	.4338	.1822	.4167	1.457
#1	2.043	2.015	2.061	1.983	2.061	1.991	1.886
#2	2.046	2.019	2.063	1.989	2.054	1.983	1.921
#3	2.044	2.015	2.057	2.000	2.060	1.975	1.941
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**137330.**	**25726.**	**6257.2**	**9036.8**
Stddev	321.	169.	17.7	25.7
%RSD	.23374	.65693	.28344	.28404
#1	137690.	25532.	6267.9	9057.8
#2	137070.	25839.	6236.8	9008.2
#3	137240.	25808.	6267.0	9044.4

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 14:12:21 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0000**	**-.0001**	**-.0002**	**-.0000**	**.0004**	**-.0000**	**-.0000**	**-.0006**
Stddev	.0001	.0001	.0000	.0000	.0002	.0002	.0000	.0002	.0006
%RSD	70.28	325.7	69.69	18.52	1826.	40.61	110.9	482.0	108.2
#1	-.0000	.0001	-.0000	-.0002	.0001	.0002	-.0000	-.0001	-.0007
#2	-.0002	-.0001	-.0000	-.0002	-.0002	.0005	-.0000	-.0002	.0001
#3	-.0002	.0001	-.0001	-.0001	.0001	.0004	-.0000	.0002	-.0011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0000**	**-.0003**	**.0000**	**.0010**	**-.0011**	**-.0003**	**-.0022**	**-.0036**
Stddev	.0001	.0000	.0006	.0006	.0006	.0007	.0010	.0037	.0010
%RSD	35.27	56.56	227.9	1181.	58.42	59.40	402.0	169.6	28.44
#1	-.0002	-.0000	.0004	.0007	.0004	-.0019	-.0012	-.0060	-.0047
#2	-.0004	-.0001	-.0004	-.0004	.0016	-.0009	.0008	.0013	-.0036
#3	-.0005	-.0000	-.0008	-.0001	.0010	-.0006	-.0004	-.0018	-.0026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0013**	**-.0065**	**.1846**	**.0858**	**.0030**	**.0004**	**.0000**	**.0001**	**-.0000**
Stddev	.0006	.0075	.0351	.0028	.0003	.0001	.0000	.0001	.0001
%RSD	48.99	115.0	19.00	3.256	8.498	31.73	96.10	98.24	212.4
#1	.0006	-.0024	.2251	.0876	.0029	.0005	.0000	.0000	-.0001
#2	.0018	-.0020	.1651	.0826	.0033	.0003	.0000	.0001	-.0000
#3	.0014	-.0152	.1635	.0873	.0028	.0005	.0001	.0003	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 14:12:21 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0029**	**.0002**	**.0009**	**-.0001**	**-.0031**	**.0098**
Stddev	.0004	.0006	.0001	.0013	1592.	41.49	28.38
%RSD	222.5	20.45	62.47	143.7	.0011	.0013	.0028
#1	-.0006	.0024	.0002	.0001	-.0012	-.0031	.0067
#2	.0003	.0035	.0003	.0025	.0000	-.0044	.0110
#3	-.0003	.0026	.0001	.0002	.0009	-.0018	.0119

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**145330.**	**25893.**	**6512.3**	**9948.0**
Stddev	125.	40.	15.8	8.9
%RSD	.08623	.15484	.24202	.08918
#1	145200.	25931.	6518.7	9952.1
#2	145340.	25851.	6494.3	9937.8
#3	145450.	25897.	6523.8	9954.0

Zoom In Zoom Out

Sample Name: jc85722-42rconf Acquired: 4/22/2019 14:17:29 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.442**	**.0033**	**.0023**	**.1355**	**.1810**	**.6624**	**2.492**	**.3813**	**-.0212**
Stddev	.159	.0002	.0004	.0078	.0123	.0481	.168	.0178	.0050
%RSD	11.03	7.298	17.85	5.744	6.822	7.259	6.750	4.665	23.79
#1	1.281	.0032	.0021	.1276	.1683	.6135	2.318	.3645	-.0267
#2	1.448	.0032	.0021	.1357	.1817	.6642	2.506	.3795	-.0198
#3	1.599	.0036	.0028	.1431	.1930	.7096	2.654	.4000	-.0169

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2204**	**4.637**	**.2784**	**-.0082**	**33.74**	**-.0195**	**.0357**	**56.44**	**27.10**
Stddev	.0159	.239	.0226	.0060	1.84	.0053	.0158	6.46	2.97
%RSD	7.193	5.151	8.124	73.04	5.450	27.48	44.18	11.44	10.97
#1	.2044	4.398	.2549	-.0030	31.88	-.0207	.0539	49.95	24.10
#2	.2209	4.636	.2803	-.0068	33.78	-.0136	.0262	56.51	27.17
#3	.2361	4.876	.3000	-.0148	35.55	-.0241	.0269	62.86	30.05

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**324.7**	**12.83**	**6.302**	**1.133**	**.0450**	**.0415**	**1.801**	**11.47**	**.2821**
Stddev	36.9	1.40	.463	.013	.0047	.0037	.082	.57	.0314
%RSD	11.36	10.88	7.340	1.177	10.43	9.026	4.565	4.994	11.13
#1	287.7	11.43	5.859	1.121	.0402	.0378	1.718	10.89	.2506
#2	325.0	12.84	6.265	1.147	.0452	.0415	1.802	11.49	.2823
#3	361.4	14.22	6.782	1.130	.0496	.0453	1.882	12.03	.3133

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.806**	**.0026**	**.0183**	**2.368**	**.1000**	**.0466**	**10.73**
Stddev	.123	.0032	.0025	.134	.0096	.0025	.62
%RSD	6.804	123.1	13.55	5.678	9.615	5.265	5.765
#1	1.678	.0063	.0156	2.223	.0934	.0439	10.13
#2	1.815	.0009	.0189	2.393	.0956	.0487	10.70
#3	1.923	.0006	.0205	2.488	.1111	.0472	11.37

Zoom In Zoom Out

Sample Name: jc85722-42rconf Acquired: 4/22/2019 14:17:29 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144450.**	**26565.**	**6593.6**	**9764.3**
Stddev	363.	162.	15.0	15.7
%RSD	.25145	.60908	.22709	.16073
#1	144510.	26656.	6576.9	9747.3
#2	144060.	26661.	6605.7	9778.3
#3	144780.	26379.	6598.2	9767.4

Zoom In Zoom Out

Sample Name: mp14303-mb1conf Acquired: 4/22/2019 14:22:28 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0001**	**.0000**	**-.0003**	**.0003**	**.0000**	**.0002**	**.0003**	**-.0003**
Stddev	.0004	.0000	.0001	.0002	.0003	.0001	.0000	.0005	.0003
%RSD	142.3	48.94	699.8	79.57	91.64	416.5	15.74	153.8	90.83
#1	.0000	-.0001	.0000	-.0002	.0006	-.0000	.0002	.0009	-.0005
#2	-.0007	-.0001	-.0001	-.0005	.0003	-.0001	.0002	-.0001	-.0005
#3	-.0001	-.0000	.0001	-.0001	.0000	.0002	.0002	.0003	.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0073**	**-.0011**	**-.0007**	**.0001**	**-.0002**	**.0003**	**.0043**	**.3379**
Stddev	.0001	.0001	.0010	.0008	.0001	.0015	.0009	.0105	.0023
%RSD	20.21	1.191	88.71	127.7	148.2	1008.	315.6	244.5	.6779
#1	-.0004	.0074	-.0022	-.0012	.0002	-.0011	.0005	-.0051	.3372
#2	-.0004	.0073	-.0009	.0003	-.0000	-.0009	-.0007	.0023	.3405
#3	-.0003	.0073	-.0003	-.0011	.0000	.0016	.0010	.0157	.3361

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0052**	**.0090**	**.1104**	**.0721**	**.0014**	**.0003**	**.0065**	**-.0003**	**.0003**
Stddev	.0012	.0094	.0375	.0087	.0004	.0002	.0010	.0000	.0000
%RSD	23.52	104.0	33.98	12.04	30.27	47.69	15.42	8.896	6.051
#1	.0045	.0199	.0846	.0724	.0019	.0005	.0075	-.0003	.0003
#2	.0067	.0037	.0932	.0633	.0011	.0004	.0055	-.0003	.0003
#3	.0045	.0035	.1535	.0807	.0012	.0002	.0065	-.0002	.0004

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0032**	**.0002**	**.0109**	**-.0003**	**-.0009**	**.0086**
Stddev	.0001	.0008	.0002	.0027	.0007	.0010	.0024
%RSD	45.31	25.09	72.20	24.61	258.2	115.2	27.79
#1	.0004	.0024	.0000	.0082	-.0010	-.0001	.0111
#2	.0003	.0032	.0003	.0136	-.0002	-.0021	.0083
#3	.0001	.0040	.0003	.0108	.0004	-.0005	.0064

Zoom In Zoom Out

Sample Name: mp14303-mb1conf Acquired: 4/22/2019 14:22:28 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147360.**	**26570.**	**6610.1**	**10042.**
Stddev	663.	164.	11.1	12.
%RSD	.44968	.61892	.16732	.12428
#1	146590.	26573.	6609.1	10033.
#2	147740.	26404.	6599.6	10036.
#3	147730.	26733.	6621.7	10056.

Zoom In Zoom Out

Sample Name: jc86442-5 7 Acquired: 4/22/2019 14:27:34 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6868**	**.0001**	**-.0003**	**.0001**	**.0035**	**.0062**	**4.632**	**.0019**	**-.0010**
Stddev	.0013	.0000	.0001	.0007	.0002	.0005	.040	.0008	.0013
%RSD	.1840	46.07	37.13	1091.	5.515	7.852	.8533	41.10	127.0
#1	.6858	.0001	-.0002	-.0000	.0033	.0066	4.587	.0019	-.0001
#2	.6863	.0001	-.0004	-.0006	.0037	.0056	4.648	.0027	-.0024
#3	.6882	.0001	-.0003	.0008	.0034	.0063	4.661	.0011	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0097**	**.0985**	**.0000**	**-.0009**	**.0018**	**.0005**	**-.0002**	**.1011**	**308.1**
Stddev	.0005	.0001	.0011	.0010	.0034	.0028	.0021	.0046	3.1
%RSD	5.147	.1144	12500.	121.2	184.0	558.1	956.4	4.543	.9961
#1	.0095	.0985	-.0012	-.0003	.0047	.0029	.0016	.0961	309.5
#2	.0093	.0986	.0009	-.0002	-.0019	.0011	.0002	.1021	310.3
#3	.0102	.0984	.0003	-.0021	.0026	-.0026	-.0024	.1051	304.6

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7306**	**41.19**	**13.62**	F **1077.**	**.3659**	**.0059**	**8.498**	**-.0033**	**1.717**
Stddev	.0011	.05	.18	10.	.0009	.0005	.003	.0005	.002
%RSD	.1498	.1131	1.325	.8966	.2443	8.567	.0393	16.22	.1041
#1	.7307	41.14	13.44	1087.	.3650	.0056	8.496	-.0032	1.715
#2	.7295	41.20	13.61	1075.	.3658	.0065	8.502	-.0039	1.717
#3	.7317	41.22	13.80	1068.	.3668	.0056	8.498	-.0029	1.719

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0022**	**.0077**	**.0008**	**16.37**	**.0029**	**.0597**	**.1168**
Stddev	.0013	.0020	.0002	.06	.0008	.0025	.0044
%RSD	57.85	25.75	27.77	.3695	27.78	4.178	3.804
#1	.0035	.0100	.0010	16.31	.0020	.0598	.1200
#2	.0010	.0069	.0007	16.43	.0034	.0572	.1117
#3	.0021	.0063	.0006	16.37	.0033	.0622	.1185

Zoom In Zoom Out

Sample Name: jc86442-5 7 Acquired: 4/22/2019 14:27:34 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**131470.**	**25567.**	**5925.9**	**8249.4**
Stddev	555.	55.	10.2	8.1
%RSD	.42204	.21321	.17235	.09855
#1	131900.	25521.	5935.4	8254.1
#2	131660.	25554.	5915.1	8240.1
#3	130840.	25627.	5927.3	8254.2

Zoom In Zoom Out

Sample Name: MP14334-MB1 7 Acquired: 4/22/2019 14:33:00 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0000**	**-.0000**	**-.0003**	**.0000**	**.0004**	**.0001**	**.0000**	**-.0002**
Stddev	.0003	.0001	.0002	.0001	.0002	.0002	.0000	.0004	.0005
%RSD	67.11	1996.	9055.	57.26	2048.	35.56	37.70	2858.	272.6
#1	-.0002	.0000	.0002	-.0004	.0001	.0005	.0001	.0003	.0000
#2	-.0007	.0001	-.0002	-.0001	.0001	.0005	.0001	.0001	.0002
#3	-.0003	-.0001	.0000	-.0003	-.0002	.0003	.0001	-.0004	-.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0027**	**-.0004**	**-.0002**	**.0003**	**-.0013**	**.0003**	**-.0029**	**.0019**
Stddev	.0001	.0001	.0013	.0010	.0006	.0017	.0001	.0065	.0013
%RSD	26.59	3.029	292.9	418.8	191.4	131.1	39.42	225.3	71.97
#1	-.0005	.0028	.0002	.0008	.0003	-.0004	.0002	.0038	.0033
#2	-.0005	.0026	.0004	-.0004	.0008	-.0032	.0004	-.0092	.0006
#3	-.0003	.0028	-.0019	-.0011	-.0003	-.0002	.0003	-.0032	.0018

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0025**	**-.0086**	**.3296**	**.3361**	**.0016**	**.0001**	**.0064**	**-.0004**	**.0000**
Stddev	.0018	.0010	.0187	.0095	.0003	.0002	.0016	.0005	.0001
%RSD	70.97	11.13	5.675	2.824	22.21	213.2	24.98	124.4	1004.
#1	.0018	-.0093	.3240	.3413	.0020	-.0001	.0082	-.0007	.0000
#2	.0045	-.0089	.3504	.3419	.0013	.0003	.0061	-.0005	.0001
#3	.0012	-.0075	.3143	.3252	.0014	.0001	.0050	.0001	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0023**	**.0002**	**.0044**	**.0010**	**.0016**	**.0017**
Stddev	.0003	.0002	.0002	.0008	.0007	.0010	.0024
%RSD	669.1	8.623	68.11	17.10	73.39	59.37	142.5
#1	-.0001	.0023	.0003	.0042	.0016	.0011	.0045
#2	.0003	.0021	.0001	.0038	.0002	.0028	-.0001
#3	-.0002	.0024	.0004	.0052	.0011	.0010	.0008

Zoom In Zoom Out

Sample Name: MP14334-MB1 7 Acquired: 4/22/2019 14:33:00 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147230.**	**26525.**	**6594.9**	**10019.**
Stddev	359.	18.	11.4	12.
%RSD	.24413	.06768	.17303	.11617
#1	146810.	26514.	6596.5	10030.
#2	147420.	26546.	6582.7	10007.
#3	147450.	26515.	6605.4	10020.

Zoom In Zoom Out

Sample Name: MP14334-B1 Acquired: 4/22/2019 14:38:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.031**	**2.004**	**1.987**	**2.028**	**1.985**	**1.990**	**2.010**	**2.038**	**.2628**
Stddev	.006	.005	.002	.002	.006	.002	.028	.001	.0006
%RSD	.3159	.2621	.1004	.0742	.2891	.0967	1.377	.0697	.2233
#1	2.026	2.000	1.988	2.029	1.979	1.988	2.010	2.040	.2622
#2	2.038	2.010	1.985	2.026	1.990	1.992	2.037	2.037	.2633
#3	2.029	2.002	1.988	2.029	1.985	1.990	1.982	2.038	.2628

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.981**	**2.004**	**2.022**	**2.105**	**2.033**	**1.990**	**2.042**	**25.09**	**25.30**
Stddev	.002	.002	.002	.008	.001	.000	.000	.08	.07
%RSD	.0828	.0762	.1021	.3701	.0551	.0121	.0212	.3187	.2788
#1	1.979	2.006	2.024	2.114	2.034	1.990	2.043	25.03	25.26
#2	1.982	2.003	2.022	2.098	2.033	1.990	2.042	25.18	25.38
#3	1.981	2.004	2.020	2.104	2.032	1.990	2.042	25.05	25.27

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.17**	**25.39**	**25.46**	**25.97**	**2.009**	**2.072**	**.0408**	**2.080**	**2.021**
Stddev	.05	.04	.09	.05	.003	.002	.0021	.003	.003
%RSD	.1935	.1572	.3398	.1976	.1267	.0860	5.090	.1477	.1304
#1	25.13	25.38	25.37	25.93	2.010	2.074	.0393	2.082	2.019
#2	25.22	25.43	25.55	26.03	2.006	2.071	.0399	2.076	2.024
#3	25.15	25.36	25.45	25.96	2.011	2.071	.0432	2.082	2.020

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.050**	**1.929**	**2.059**	**.0247**	**.1257**	**-.0014**	**2.103**
Stddev	.002	.002	.000	.0009	.0014	.0018	.002
%RSD	.0855	.1098	.0213	3.577	1.089	126.1	.0973
#1	2.050	1.927	2.059	.0257	.1251	-.0020	2.101
#2	2.052	1.930	2.060	.0246	.1272	-.0028	2.105
#3	2.049	1.930	2.059	.0239	.1247	.0006	2.104

Zoom In Zoom Out

Sample Name: MP14334-B1 Acquired: 4/22/2019 14:38:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**141730.**	**26382.**	**6421.0**	**9312.5**
Stddev	631.	195.	7.8	14.5
%RSD	.44535	.74060	.12215	.15560
#1	142430.	26343.	6414.4	9297.3
#2	141190.	26209.	6429.7	9326.2
#3	141570.	26594.	6419.0	9314.1

Zoom In Zoom Out

Sample Name: MP14334-B2 Acquired: 4/22/2019 14:43:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.039**	**2.014**	**1.991**	**2.034**	**1.985**	**1.990**	**2.032**	**2.043**	**.2629**
Stddev	.006	.008	.003	.001	.002	.001	.025	.000	.0005
%RSD	.2841	.3771	.1290	.0644	.0987	.0595	1.210	.0159	.2082
#1	2.039	2.010	1.992	2.035	1.987	1.990	2.004	2.042	.2627
#2	2.034	2.009	1.993	2.034	1.986	1.990	2.045	2.043	.2636
#3	2.045	2.023	1.988	2.032	1.983	1.988	2.047	2.042	.2625

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.986**	**2.008**	**2.032**	**2.116**	**2.038**	**1.998**	**2.047**	**25.18**	**25.44**
Stddev	.001	.001	.004	.006	.001	.004	.003	.07	.08
%RSD	.0553	.0677	.1863	.2676	.0526	.2095	.1566	.2698	.3261
#1	1.985	2.010	2.030	2.123	2.039	2.002	2.044	25.17	25.40
#2	1.987	2.008	2.036	2.113	2.039	1.994	2.050	25.11	25.38
#3	1.987	2.007	2.029	2.114	2.037	1.997	2.046	25.25	25.54

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.29**	**25.55**	**25.57**	**26.21**	**2.016**	**2.075**	**.0217**	**2.084**	**2.031**
Stddev	.07	.07	.08	.04	.000	.001	.0004	.003	.004
%RSD	.2753	.2721	.3092	.1336	.0087	.0488	1.694	.1404	.1975
#1	25.25	25.52	25.59	26.24	2.016	2.076	.0213	2.085	2.028
#2	25.24	25.50	25.48	26.20	2.016	2.076	.0220	2.086	2.029
#3	25.37	25.63	25.64	26.18	2.016	2.074	.0218	2.080	2.035

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.056**	**1.968**	**2.067**	**.0234**	**.1266**	**-.0014**	**2.085**
Stddev	.002	.003	.001	.0004	.0018	.0012	.015
%RSD	.0914	.1715	.0414	1.747	1.436	81.10	.7329
#1	2.054	1.966	2.066	.0229	.1275	-.0026	2.101
#2	2.056	1.972	2.067	.0235	.1277	-.0002	2.084
#3	2.057	1.966	2.067	.0237	.1245	-.0015	2.071

Zoom In Zoom Out

Sample Name: MP14334-B2 Acquired: 4/22/2019 14:43:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**141930.**	**26280.**	**6433.0**	**9330.7**
Stddev	280.	93.	6.3	11.6
%RSD	.19719	.35309	.09840	.12407
#1	142090.	26237.	6425.8	9317.9
#2	142100.	26386.	6435.2	9340.4
#3	141610.	26216.	6437.9	9333.9

Zoom In Zoom Out

Sample Name: MP14334-S1 Acquired: 4/22/2019 14:48:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.940**	**1.886**	**1.893**	**1.936**	**1.841**	**1.856**	**1.957**	**1.949**	**.2488**
Stddev	.005	.004	.002	.001	.007	.006	.006	.002	.0006
%RSD	.2393	.1946	.1225	.0643	.4096	.3403	.3008	.1104	.2337
#1	1.936	1.882	1.894	1.937	1.849	1.862	1.963	1.950	.2495
#2	1.940	1.888	1.894	1.936	1.841	1.855	1.956	1.951	.2484
#3	1.945	1.888	1.890	1.934	1.834	1.850	1.951	1.947	.2486

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.860**	**1.931**	**1.961**	**1.967**	**1.934**	**1.919**	**1.950**	**24.27**	**61.63**
Stddev	.006	.002	.002	.007	.001	.003	.001	.06	.08
%RSD	.3268	.0927	.1059	.3430	.0237	.1529	.0398	.2292	.1336
#1	1.866	1.931	1.964	1.975	1.934	1.922	1.950	24.21	61.54
#2	1.861	1.932	1.960	1.962	1.934	1.919	1.950	24.28	61.63
#3	1.854	1.929	1.960	1.965	1.935	1.916	1.949	24.32	61.71

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.31**	**25.47**	**27.38**	**135.6**	**1.962**	**1.956**	**7.308**	**1.946**	**2.103**
Stddev	.02	.01	.05	1.6	.003	.003	.010	.002	.002
%RSD	.0658	.0434	.1936	1.187	.1565	.1581	.1400	.1208	.0917
#1	25.29	25.47	27.33	137.3	1.963	1.959	7.318	1.949	2.103
#2	25.31	25.46	27.39	134.1	1.965	1.954	7.309	1.944	2.102
#3	25.32	25.48	27.43	135.6	1.959	1.954	7.298	1.946	2.105

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.931**	**1.879**	**1.927**	**5.373**	**.1198**	**.0052**	**2.278**
Stddev	.006	.003	.006	.029	.0013	.0035	.015
%RSD	.3118	.1476	.3245	.5476	1.105	66.74	.6627
#1	1.934	1.880	1.932	5.406	.1185	.0072	2.295
#2	1.934	1.881	1.929	5.350	.1199	.0012	2.271
#3	1.924	1.876	1.920	5.363	.1211	.0073	2.267

Zoom In Zoom Out

Sample Name: MP14334-S1 Acquired: 4/22/2019 14:48:07 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**139350.**	**26440.**	**6252.3**	**8873.2**
Stddev	307.	58.	1.2	2.4
%RSD	.22039	.21867	.01980	.02699
#1	139340.	26450.	6253.7	8873.2
#2	139670.	26492.	6252.0	8875.6
#3	139050.	26377.	6251.2	8870.8

Zoom In Zoom Out

Sample Name: MP14334-S2 Acquired: 4/22/2019 14:53:15 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.935**	**1.881**	**1.864**	**1.909**	**1.848**	**1.860**	**1.944**	**1.922**	**.2494**
Stddev	.004	.003	.001	.001	.005	.004	.013	.000	.0003
%RSD	.2060	.1794	.0614	.0602	.2617	.2159	.6798	.0113	.1366
#1	1.940	1.885	1.863	1.910	1.853	1.862	1.955	1.923	.2496
#2	1.932	1.879	1.865	1.910	1.843	1.855	1.929	1.922	.2490
#3	1.934	1.879	1.865	1.908	1.848	1.862	1.947	1.922	.2496

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.865**	**1.904**	**1.930**	**1.940**	**1.905**	**1.885**	**1.918**	**24.24**	**61.17**
Stddev	.001	.001	.003	.007	.001	.006	.001	.02	.09
%RSD	.0342	.0760	.1436	.3822	.0536	.3407	.0705	.0671	.1408
#1	1.864	1.902	1.927	1.933	1.904	1.879	1.918	24.26	61.27
#2	1.865	1.905	1.931	1.947	1.906	1.892	1.917	24.23	61.11
#3	1.865	1.904	1.933	1.939	1.904	1.886	1.919	24.24	61.13

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.22**	**25.45**	**27.26**	**134.6**	**1.937**	**1.927**	**7.097**	**1.917**	**2.094**
Stddev	.01	.02	.05	1.1	.001	.002	.004	.002	.000
%RSD	.0508	.0797	.1815	.8184	.0622	.0803	.0520	.1134	.0080
#1	25.24	25.43	27.25	133.6	1.936	1.926	7.095	1.915	2.095
#2	25.21	25.46	27.22	134.5	1.937	1.927	7.102	1.920	2.095
#3	25.22	25.46	27.31	135.8	1.938	1.929	7.096	1.917	2.094

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.935**	**1.842**	**1.930**	**5.234**	**.1191**	**.0066**	**2.204**
Stddev	.002	.002	.001	.023	.0018	.0006	.017
%RSD	.0836	.1314	.0394	.4472	1.526	9.584	.7720
#1	1.934	1.841	1.930	5.208	.1173	.0063	2.192
#2	1.937	1.845	1.930	5.251	.1192	.0073	2.224
#3	1.934	1.840	1.929	5.245	.1209	.0062	2.196

Zoom In Zoom Out

Sample Name: MP14334-S2 Acquired: 4/22/2019 14:53:15 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**136970.**	**26005.**	**6244.5**	**8867.9**
Stddev	496.	30.	7.8	5.4
%RSD	.36197	.11616	.12558	.06062
#1	136740.	26023.	6253.5	8872.3
#2	137540.	26022.	6239.6	8861.9
#3	136630.	25970.	6240.4	8869.4

Zoom In Zoom Out

Sample Name: JC86402-9A Acquired: 4/22/2019 14:58:23 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0410**	**.0000**	**.0001**	**.0001**	**.0023**	**.0153**	**.0874**	**.0019**	**-.0001**
Stddev	.0003	.0000	.0000	.0002	.0003	.0002	.0001	.0001	.0002
%RSD	.8304	165.0	21.71	210.1	15.00	1.150	.1256	5.672	303.2
#1	.0406	.0001	.0001	.0001	.0019	.0152	.0874	.0018	-.0000
#2	.0411	.0000	.0002	.0003	.0025	.0155	.0873	.0020	.0001
#3	.0412	-.0000	.0001	-.0001	.0025	.0151	.0875	.0018	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0072**	**.0297**	**.0033**	**-.0003**	**.0035**	**-.0010**	**.0014**	**.5553**	**38.78**
Stddev	.0003	.0001	.0014	.0007	.0003	.0015	.0008	.0070	.09
%RSD	3.864	.2756	43.74	271.1	8.972	157.0	52.07	1.261	.2326
#1	.0069	.0297	.0041	-.0006	.0038	-.0027	.0023	.5574	38.71
#2	.0075	.0298	.0041	-.0008	.0032	-.0004	.0009	.5475	38.75
#3	.0072	.0297	.0016	.0006	.0036	.0002	.0011	.5611	38.88

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.766**	**1.941**	**3.500**	**114.1**	**.0594**	**.0052**	**6.947**	**-.0015**	**.2151**
Stddev	.007	.011	.007	.4	.0009	.0001	.006	.0004	.0004
%RSD	.4114	.5550	.2119	.3333	1.504	1.228	.0911	27.03	.1797
#1	1.761	1.953	3.504	114.0	.0599	.0053	6.954	-.0012	.2151
#2	1.763	1.937	3.491	113.7	.0600	.0053	6.946	-.0020	.2147
#3	1.774	1.932	3.503	114.5	.0584	.0052	6.942	-.0014	.2155

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0145**	**.0058**	**.0007**	**5.351**	**.0013**	**.0067**	**.2320**
Stddev	.0002	.0008	.0002	.012	.0017	.0007	.0043
%RSD	1.640	13.45	35.30	.2308	130.9	11.15	1.835
#1	.0144	.0064	.0005	5.361	-.0003	.0064	.2339
#2	.0148	.0060	.0010	5.337	.0011	.0061	.2349
#3	.0143	.0049	.0006	5.355	.0031	.0075	.2271

Zoom In Zoom Out

Sample Name: JC86402-9A Acquired: 4/22/2019 14:58:23 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**139920.**	**26071.**	**6320.4**	**9036.9**
Stddev	362.	122.	16.0	15.4
%RSD	.25861	.46804	.25335	.17013
#1	140340.	26209.	6304.8	9031.1
#2	139710.	25975.	6336.8	9054.4
#3	139720.	26031.	6319.6	9025.3

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/22/2019 15:03:35 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0018**	**-.0003**	**-.0003**	**-.0001**	**-.0001**	**-.0034**	**-.0000**	**.0001**	**-.0005**
Stddev	.0001	.0000	.0000	.0001	.0001	.0001	.0000	.0003	.0001
%RSD	5.775	4.862	14.15	70.27	72.21	3.238	28.16	273.9	29.06
#1	-.0017	-.0003	-.0003	-.0001	-.0001	-.0035	-.0000	-.0002	-.0004
#2	-.0019	-.0003	-.0002	-.0001	-.0001	-.0033	-.0000	.0001	-.0006
#3	-.0017	-.0003	-.0003	-.0002	-.0000	-.0034	-.0000	.0004	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0008**	**.0001**	**.0015**	**.0015**	**-.0001**	**-.0024**	**-.0017**	**-.0062**	**-.0077**
Stddev	.0002	.0000	.0011	.0009	.0007	.0012	.0005	.0056	.0009
%RSD	22.18	26.42	73.89	60.41	1208.	47.36	28.82	90.42	11.48
#1	-.0009	.0001	.0002	.0023	-.0005	-.0025	-.0020	-.0007	-.0086
#2	-.0010	.0001	.0020	.0005	-.0004	-.0012	-.0011	-.0119	-.0069
#3	-.0006	.0001	.0023	.0017	.0007	-.0036	-.0019	-.0061	-.0075

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0017**	**-.0099**	**.0673**	**.1259**	**.0024**	**.0002**	**-.0074**	**-.0006**	**.0000**
Stddev	.0005	.0022	.0062	.0035	.0003	.0001	.0010	.0003	.0000
%RSD	29.29	22.04	9.269	2.785	14.43	54.07	13.21	41.85	69.37
#1	-.0011	-.0084	.0739	.1265	.0021	.0003	-.0083	-.0003	.0000
#2	-.0020	-.0089	.0664	.1291	.0024	.0001	-.0076	-.0008	.0000
#3	-.0020	-.0124	.0615	.1221	.0028	.0001	-.0063	-.0008	.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0006**	**.0003**	**-.0038**	**.0012**	**.0079**	**.0011**
Stddev	.0001	.0004	.0000	.0012	.0007	.0007	.0006
%RSD	42.74	65.95	12.06	31.73	53.43	8.521	56.34
#1	-.0002	-.0006	.0003	-.0049	.0018	.0087	.0014
#2	-.0002	-.0003	.0003	-.0025	.0005	.0073	.0004
#3	-.0001	-.0011	.0004	-.0038	.0013	.0078	.0015

Zoom In Zoom Out

Sample Name: missedconf Acquired: 4/22/2019 15:03:35 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**277360.**	**43321.**	**13839.**	**20247.**
Stddev	3241.	333.	64.	88.
%RSD	1.1685	.76864	.46262	.43321
#1	279930.	43006.	13910.	20343.
#2	278420.	43288.	13785.	20172.
#3	273720.	43669.	13821.	20226.

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 15:08:51 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.176**	**2.139**	**2.134**	**2.159**	**2.136**	**2.131**	**2.161**	**2.172**	**.2658**
Stddev	.001	.002	.007	.007	.001	.003	.041	.007	.0006
%RSD	.0392	.0746	.3310	.3123	.0619	.1419	1.902	.3162	.2248
#1	2.175	2.139	2.126	2.151	2.137	2.134	2.206	2.164	.2656
#2	2.177	2.140	2.138	2.163	2.137	2.131	2.149	2.177	.2665
#3	2.177	2.137	2.139	2.163	2.134	2.128	2.127	2.175	.2653
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.125**	**2.161**	**2.150**	F **2.209**	**2.161**	**2.151**	**2.149**	**42.39**	**42.71**
Stddev	.002	.007	.007	.007	.008	.009	.009	.03	.04
%RSD	.0847	.3283	.3441	.3178	.3739	.4019	.4200	.0740	.0987
#1	2.128	2.153	2.142	2.205	2.152	2.142	2.139	42.40	42.72
#2	2.124	2.162	2.156	2.217	2.168	2.159	2.155	42.41	42.75
#3	2.124	2.167	2.153	2.205	2.161	2.152	2.154	42.35	42.67
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				2.000					
Range				10.00%					

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**42.35**	**42.68**	**42.97**	**43.79**	**2.181**	**2.172**	F **5.603**	**2.170**	**2.175**
Stddev	.04	.05	.05	.02	.009	.007	.019	.005	.002
%RSD	.0986	.1191	.1084	.0455	.3953	.3155	.3425	.2406	.1011
#1	42.37	42.69	43.02	43.81	2.172	2.164	5.581	2.164	2.177
#2	42.37	42.72	42.93	43.78	2.183	2.176	5.613	2.171	2.176
#3	42.30	42.62	42.96	43.78	2.189	2.176	5.615	2.175	2.173
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value							5.000		
Range							10.00%		

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/22/2019 15:08:51 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.162**	**2.128**	**2.171**	**2.124**	**2.180**	**2.108**	F **2.227**
Stddev	.003	.006	.002	.007	.007	.002	.015
%RSD	.1389	.2898	.0893	.3201	.3169	.0701	.6702
#1	2.165	2.122	2.173	2.118	2.173	2.108	2.211
#2	2.161	2.128	2.170	2.131	2.186	2.109	2.229
#3	2.159	2.134	2.171	2.121	2.182	2.106	2.241
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value							2.000
Range							10.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**130930.**	**24541.**	**5981.7**	**8679.0**
Stddev	270.	88.	18.9	21.3
%RSD	.20658	.35708	.31554	.24537
#1	130630.	24554.	5995.3	8700.4
#2	131160.	24448.	5989.6	8678.6
#3	130990.	24622.	5960.1	8657.9

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 15:17:56 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0000**	**.0000**	**-.0002**	**.0003**	**.0002**	**-.0000**	**-.0001**	**-.0002**
Stddev	.0003	.0001	.0003	.0002	.0001	.0002	.0000	.0002	.0001
%RSD	122.4	835.4	2808.	108.9	26.98	107.8	195.0	376.4	53.96
#1	.0000	.0000	-.0003	-.0003	.0002	.0003	-.0001	-.0002	-.0002
#2	-.0002	-.0001	-.0000	.0000	.0003	.0004	-.0000	-.0002	-.0001
#3	-.0005	.0000	.0003	-.0003	.0003	-.0001	.0000	.0002	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0000**	**.0002**	**.0009**	**.0009**	**-.0011**	**.0008**	**-.0060**	**-.0036**
Stddev	.0002	.0001	.0008	.0006	.0001	.0006	.0012	.0034	.0008
%RSD	52.23	157.4	454.1	62.76	12.43	51.80	162.3	56.84	21.70
#1	-.0003	-.0000	.0011	.0006	.0009	-.0011	.0013	-.0064	-.0038
#2	-.0002	.0001	-.0001	.0016	.0008	-.0017	.0016	-.0024	-.0027
#3	-.0006	.0000	-.0005	.0006	.0011	-.0006	-.0006	-.0092	-.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**-.0103**	**.1393**	**.0981**	**.0031**	**.0003**	**-.0008**	**-.0003**	**.0001**
Stddev	.0015	.0086	.0044	.0071	.0009	.0004	.0012	.0001	.0000
%RSD	197.9	83.70	3.144	7.252	28.93	118.6	159.2	39.93	50.62
#1	-.0024	-.0051	.1427	.0929	.0041	.0006	.0006	-.0002	.0000
#2	-.0001	-.0055	.1344	.0952	.0031	-.0001	-.0017	-.0003	.0001
#3	.0003	-.0202	.1408	.1062	.0023	.0003	-.0012	-.0005	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 15:17:56 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0026**	**.0002**	**-.0004**	**.0013**	**-.0025**	**-.0048**
Stddev	.0004	.0012	.0001	.0006	.0003	.0010	.0005
%RSD	350.1	45.80	77.94	155.8	25.80	38.64	9.443
#1	.0005	.0039	.0003	-.0010	.0012	-.0015	-.0047
#2	-.0003	.0022	.0001	.0002	.0017	-.0035	-.0054
#3	.0001	.0017	.0000	-.0005	.0011	-.0026	-.0045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144930.**	**25925.**	**6515.9**	**9942.2**
Stddev	843.	146.	7.8	12.6
%RSD	.58173	.56269	.11953	.12660
#1	144010.	26086.	6523.5	9955.5
#2	145130.	25889.	6507.9	9940.8
#3	145660.	25801.	6516.4	9930.5

Zoom In Zoom Out

Sample Name: MP14334-SD1 Acquired: 4/22/2019 15:22:51 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0422**	**.0002**	**.0002**	**-.0018**	**.0025**	**.0167**	**.0911**	**.0036**	**-.0018**
Stddev	.0017	.0004	.0003	.0005	.0022	.0021	.0001	.0003	.0011
%RSD	4.119	203.4	160.5	27.93	86.36	12.50	.0872	7.075	60.11
#1	.0416	.0006	.0003	-.0013	.0040	.0163	.0912	.0039	-.0025
#2	.0408	-.0000	.0004	-.0023	.0000	.0189	.0910	.0035	-.0006
#3	.0442	-.0000	-.0002	-.0017	.0036	.0148	.0911	.0035	-.0023

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0048**	**.0567**	**.0077**	**.0020**	**.0063**	**-.0086**	**.0061**	**.6470**	**39.48**
Stddev	.0020	.0007	.0027	.0041	.0026	.0082	.0052	.0040	.09
%RSD	42.23	1.254	35.30	201.6	42.33	95.42	85.02	.6155	.2273
#1	.0058	.0574	.0088	.0052	.0087	-.0174	.0096	.6441	39.49
#2	.0062	.0566	.0098	-.0025	.0034	-.0069	.0001	.6454	39.57
#3	.0025	.0560	.0047	.0033	.0066	-.0013	.0086	.6515	39.39

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.861**	**2.003**	**3.897**	**122.3**	**.0691**	**.0070**	**7.120**	**-.0006**	**.2194**
Stddev	.005	.069	.324	.1	.0013	.0006	.011	.0008	.0008
%RSD	.2804	3.458	8.311	.0572	1.953	8.277	.1523	132.1	.3786
#1	1.864	2.003	3.550	122.4	.0705	.0064	7.108	-.0014	.2189
#2	1.855	2.072	4.192	122.3	.0678	.0076	7.129	.0002	.2203
#3	1.863	1.933	3.948	122.4	.0689	.0071	7.122	-.0007	.2189

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0152**	**.0157**	**.0014**	**5.395**	**.0039**	**-.0040**	**.2173**
Stddev	.0016	.0013	.0005	.030	.0072	.0090	.0043
%RSD	10.42	8.129	37.18	.5564	184.5	223.7	1.960
#1	.0166	.0151	.0008	5.429	.0112	-.0036	.2179
#2	.0135	.0147	.0015	5.385	-.0033	.0048	.2212
#3	.0156	.0171	.0018	5.372	.0039	-.0132	.2127

Zoom In Zoom Out

Sample Name: MP14334-SD1 Acquired: 4/22/2019 15:22:51 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142550.**	**26083.**	**6448.6**	**9547.6**
Stddev	876.	72.	16.2	26.0
%RSD	.61473	.27793	.25129	.27185
#1	143380.	26092.	6448.7	9551.6
#2	141630.	26007.	6432.3	9519.9
#3	142620.	26151.	6464.7	9571.4

Zoom In Zoom Out

Sample Name: jc86390-1 Acquired: 4/22/2019 15:27:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0000**	**-.0001**	**-.0002**	**.0007**	**.0010**	**.0005**	**.0003**	**-.0002**
Stddev	.0002	.0000	.0002	.0001	.0002	.0003	.0000	.0001	.0002
%RSD	98.45	315.0	155.5	50.00	24.91	25.04	6.932	40.86	99.22
#1	.0003	-.0000	.0000	-.0002	.0009	.0007	.0004	.0002	.0000
#2	.0004	-.0000	-.0003	-.0004	.0008	.0011	.0005	.0003	-.0003
#3	-.0000	.0000	-.0001	-.0001	.0005	.0012	.0005	.0005	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0100**	**.0001**	**-.0000**	**.0003**	**-.0012**	**.0005**	**.0176**	**.1319**
Stddev	.0004	.0001	.0003	.0005	.0008	.0006	.0009	.0069	.0009
%RSD	97.01	1.017	388.8	2248.	236.9	53.04	169.0	39.32	.6542
#1	-.0008	.0099	.0004	-.0003	.0001	-.0013	.0016	.0097	.1326
#2	-.0000	.0101	.0001	-.0003	.0012	-.0005	-.0002	.0226	.1310
#3	-.0004	.0099	-.0002	.0005	-.0003	-.0017	.0002	.0206	.1323

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0316**	**.0218**	**.1079**	**.1692**	**.0031**	**.0004**	**.0581**	**-.0008**	**.0008**
Stddev	.0016	.0128	.0381	.0072	.0003	.0004	.0014	.0004	.0001
%RSD	4.925	58.74	35.27	4.226	9.985	84.20	2.482	50.92	9.056
#1	.0308	.0362	.0787	.1610	.0030	.0000	.0596	-.0005	.0009
#2	.0306	.0119	.1510	.1730	.0028	.0007	.0579	-.0007	.0009
#3	.0334	.0172	.0941	.1737	.0034	.0006	.0567	-.0013	.0008

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0015**	**.0002**	**.0315**	**.0004**	**-.0004**	**.0023**
Stddev	.0003	.0014	.0002	.0019	.0013	.0008	.0011
%RSD	71.08	93.99	90.02	5.924	330.3	239.2	47.14
#1	.0007	.0001	.0001	.0303	-.0004	-.0002	.0013
#2	.0003	.0015	.0004	.0306	.0019	.0004	.0035
#3	.0002	.0029	.0001	.0337	-.0004	-.0012	.0022

Zoom In Zoom Out

Sample Name: jc86390-1 Acquired: 4/22/2019 15:27:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147040.**	**26433.**	**6597.9**	**10033.**
Stddev	890.	103.	10.9	10.
%RSD	.60550	.38815	.16463	.09998
#1	146850.	26336.	6585.6	10024.
#2	146250.	26420.	6601.8	10030.
#3	148010.	26541.	6606.2	10044.

Zoom In Zoom Out

Sample Name: jc86512-8 Acquired: 4/22/2019 15:33:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0038**	**.0000**	**-.0000**	**-.0003**	**.0007**	**.0014**	**.0023**	**.0001**	**.0001**
Stddev	.0002	.0000	.0002	.0004	.0003	.0007	.0000	.0001	.0004
%RSD	4.123	74.44	3624.	130.5	37.68	50.27	1.596	68.36	378.1
#1	.0040	.0000	.0001	-.0000	.0009	.0008	.0023	.0000	.0005
#2	.0037	.0001	-.0003	-.0001	.0004	.0022	.0023	.0001	-.0003
#3	.0038	.0000	.0001	-.0008	.0007	.0013	.0023	.0002	.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0046**	**-.0011**	**-.0003**	**.0001**	**-.0003**	**-.0000**	**.0049**	**58.46**
Stddev	.0002	.0000	.0015	.0009	.0009	.0022	.0009	.0095	.16
%RSD	232.4	.2230	130.6	286.8	1375.	840.6	2316.	192.9	.2759
#1	.0001	.0046	-.0001	-.0010	.0008	.0014	.0010	.0069	58.32
#2	.0002	.0046	-.0028	-.0006	.0003	-.0028	-.0009	.0132	58.43
#3	-.0001	.0046	-.0005	.0007	-.0010	.0006	-.0002	-.0054	58.64

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0056**	**6.630**	**1.591**	**53.13**	**.0766**	**.0006**	**8.782**	**-.0018**	**.2281**
Stddev	.0013	.012	.053	.03	.0010	.0004	.009	.0007	.0006
%RSD	23.38	.1740	3.304	.0652	1.274	63.56	.1008	38.06	.2542
#1	.0068	6.631	1.640	53.13	.0770	.0007	8.792	-.0010	.2275
#2	.0042	6.618	1.599	53.10	.0755	.0008	8.775	-.0021	.2282
#3	.0059	6.641	1.535	53.17	.0772	.0002	8.779	-.0022	.2287

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0018**	**-.0005**	**21.22**	**-.0012**	**.0055**	**.0233**
Stddev	.0002	.0007	.0001	.10	.0008	.0020	.0004
%RSD	8791.	39.72	21.58	.4744	61.94	37.00	1.882
#1	.0002	.0025	-.0006	21.32	-.0016	.0032	.0238
#2	-.0002	.0011	-.0004	21.12	-.0004	.0071	.0232
#3	.0000	.0017	-.0006	21.22	-.0017	.0062	.0229

Zoom In Zoom Out

Sample Name: jc86512-8 Acquired: 4/22/2019 15:33:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**140680.**	**26153.**	**6327.1**	**9213.8**
Stddev	423.	74.	11.9	18.8
%RSD	.30078	.28129	.18769	.20456
#1	140950.	26191.	6339.4	9233.9
#2	140190.	26200.	6315.8	9196.6
#3	140890.	26068.	6326.1	9210.8

Zoom In Zoom Out

Sample Name: jc86512-10 Acquired: 4/22/2019 15:38:06 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0067**	**-.0000**	**.0001**	**.0001**	**.0010**	**.0015**	**.0002**	**.0003**	**-.0003**
Stddev	.0002	.0000	.0001	.0001	.0001	.0003	.0000	.0003	.0004
%RSD	2.509	39.78	77.05	177.6	9.613	17.90	13.18	122.8	128.0
#1	.0069	-.0000	.0001	-.0000	.0010	.0012	.0001	.0007	-.0002
#2	.0067	-.0000	.0000	.0002	.0010	.0015	.0002	.0001	-.0008
#3	.0067	-.0000	.0002	.0000	.0011	.0017	.0002	.0001	-.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0016**	**-.0005**	**.0005**	**-.0000**	**-.0021**	**-.0004**	**.0017**	**42.80**
Stddev	.0002	.0001	.0006	.0005	.0007	.0014	.0004	.0019	.05
%RSD	84.78	5.906	109.8	102.0	1787.	64.51	117.1	111.1	.1282
#1	-.0001	.0016	.0001	.0007	-.0007	-.0012	.0001	.0008	42.75
#2	-.0004	.0014	-.0008	.0010	-.0002	-.0037	-.0004	.0038	42.79
#3	-.0001	.0016	-.0009	-.0001	.0008	-.0014	-.0008	.0004	42.86

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0064**	**22.50**	**1.770**	**62.98**	**.0403**	**.0012**	**4.211**	**-.0019**	**.2614**
Stddev	.0017	.03	.019	.05	.0004	.0002	.007	.0002	.0001
%RSD	27.18	.1203	1.076	.0730	.8708	16.63	.1729	8.949	.0489
#1	.0062	22.47	1.748	63.00	.0401	.0013	4.214	-.0020	.2613
#2	.0082	22.49	1.777	63.01	.0400	.0014	4.215	-.0017	.2615
#3	.0047	22.53	1.785	62.92	.0407	.0010	4.202	-.0020	.2614

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0017**	**-.0001**	**5.270**	**.0024**	**.0009**	**.0347**
Stddev	.0001	.0006	.0002	.013	.0014	.0020	.0031
%RSD	27.77	33.31	107.5	.2401	57.44	225.7	9.067
#1	-.0003	.0012	-.0003	5.274	.0036	.0027	.0381
#2	-.0002	.0016	-.0001	5.281	.0026	-.0012	.0342
#3	-.0001	.0023	-.0001	5.256	.0009	.0011	.0319

Zoom In Zoom Out

Sample Name: jc86512-10 Acquired: 4/22/2019 15:38:06 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**139570.**	**26084.**	**6289.6**	**9130.0**
Stddev	796.	118.	11.1	6.2
%RSD	.57005	.45061	.17710	.06745
#1	139100.	26084.	6282.4	9123.8
#2	140480.	26202.	6284.0	9130.1
#3	139120.	25967.	6302.5	9136.1

Zoom In Zoom Out

Sample Name: mp14245-mb1conf Acquired: 4/22/2019 15:43:10 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0000**	**.0000**	**-.0002**	**.0005**	**.0002**	**.0000**	**.0001**	**.0001**
Stddev	.0001	.0000	.0001	.0001	.0001	.0002	.0000	.0004	.0005
%RSD	84.88	754.1	233.3	56.86	17.82	141.4	60.45	437.8	498.7
#1	-.0003	-.0000	.0000	-.0002	.0004	-.0000	.0000	.0004	.0005
#2	-.0000	-.0000	-.0000	-.0002	.0006	.0004	.0000	-.0003	-.0004
#3	-.0001	.0000	.0001	-.0004	.0004	.0001	.0001	.0002	.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0015**	**-.0003**	**.0007**	**.0002**	**-.0007**	**-.0003**	**.0032**	**-.0000**
Stddev	.0004	.0001	.0006	.0010	.0003	.0001	.0011	.0051	.0010
%RSD	94.53	3.829	216.8	146.3	116.4	16.15	348.4	158.1	4784.
#1	-.0009	.0015	-.0001	.0010	.0005	-.0008	-.0015	.0035	-.0002
#2	-.0003	.0016	-.0009	-.0004	.0004	-.0006	.0006	-.0020	.0011
#3	-.0001	.0015	.0002	.0014	-.0001	-.0008	-.0001	.0081	-.0010

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023**	**.0015**	**.0904**	**.1213**	**.0013**	**.0003**	**.0106**	**-.0005**	**-.0000**
Stddev	.0014	.0092	.0304	.0029	.0008	.0003	.0005	.0000	.0001
%RSD	61.87	603.7	33.67	2.374	61.58	95.91	4.263	6.165	252.0
#1	.0009	-.0055	.1237	.1227	.0016	-.0000	.0109	-.0004	.0000
#2	.0037	-.0018	.0832	.1180	.0004	.0005	.0101	-.0005	-.0001
#3	.0024	.0119	.0642	.1231	.0019	.0004	.0108	-.0005	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0022**	**.0001**	**.0020**	**.0021**	**.0006**	**-.0040**
Stddev	.0002	.0004	.0002	.0032	.0007	.0005	.0029
%RSD	8884.	16.06	236.6	159.1	31.83	85.29	72.11
#1	.0001	.0022	.0001	.0005	.0024	.0011	-.0012
#2	.0001	.0019	-.0001	-.0001	.0014	.0000	-.0070
#3	-.0002	.0026	.0003	.0058	.0027	.0007	-.0040

Zoom In Zoom Out

Sample Name: mp14245-mb1conf Acquired: 4/22/2019 15:43:10 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**146280.**	**26389.**	**6558.4**	**9969.5**
Stddev	647.	199.	18.0	18.9
%RSD	.44216	.75503	.27418	.18930
#1	147000.	26227.	6540.9	9955.1
#2	146110.	26611.	6557.3	9962.5
#3	145750.	26329.	6576.9	9990.8

Zoom In Zoom Out

Sample Name: jc86398-1 Acquired: 4/22/2019 15:48:16 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 200.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0541**	**-.0811**	**-.0118**	**-.0159**	**-.1170**	**.0154**	**.0787**	**2.402**	**-.1474**
Stddev	.0453	.0018	.0197	.0250	.0665	.0515	.0076	.024	.0885
%RSD	83.74	2.188	166.8	157.7	56.80	334.2	9.612	.9960	60.04
#1	.0685	-.0810	.0107	-.0447	-.1592	.0093	.0789	2.420	-.2029
#2	.0904	-.0829	-.0260	-.0024	-.0404	-.0328	.0862	2.411	-.0453
#3	.0033	-.0793	-.0201	-.0004	-.1514	.0697	.0711	2.375	-.1941

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**907.1**	**1.011**	**.0400**	**.1808**	**.0251**	**.2150**	**.0384**	**2.422**	**458.1**
Stddev	.5	.012	.3453	.2926	.2103	.0478	.2347	.526	1.7
%RSD	.0525	1.135	862.8	161.8	838.5	22.22	611.1	21.72	.3634
#1	907.1	1.006	-.3090	-.0349	-.0690	.1739	-.2053	2.263	458.3
#2	907.6	1.024	.0475	.0634	-.1218	.2674	.0577	3.009	459.7
#3	906.6	1.003	.3815	.5139	.2659	.2036	.2628	1.994	456.4

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7574**	**1604.**	**149.1**	**4574.**	**.6920**	**10.09**	**-26.26**	**-.0208**	**4.024**
Stddev	.0480	8.	8.3	11.	.0762	.03	.17	.0873	.008
%RSD	6.341	.4838	5.593	.2308	11.02	.3221	.6628	418.7	.1965
#1	.8126	1604.	157.7	4573.	.7324	10.11	-26.40	.0799	4.024
#2	.7338	1611.	141.1	4585.	.6041	10.05	-26.31	-.0705	4.032
#3	.7257	1596.	148.5	4564.	.7396	10.10	-26.07	-.0719	4.016

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0072**	**.4787**	**.0294**	**4870.**	**.3021**	**-.4762**	**2.682**
Stddev	.0642	.4826	.0411	13.	.3030	.4781	.494
%RSD	893.4	100.8	140.1	.2759	100.3	100.4	18.40
#1	.0528	.0868	.0359	4879.	.5703	-.7999	2.195
#2	.0006	.3315	-.0146	4877.	-.0266	-.7015	2.669
#3	-.0749	1.018	.0669	4855.	.3624	.0729	3.182

Zoom In / Zoom Out

Sample Name: jc86398-1 Acquired: 4/22/2019 15:48:16 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 200.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142190.**	**25687.**	**6419.6**	**9520.4**
Stddev	511.	74.	20.6	13.6
%RSD	.35910	.28982	.32108	.14329
#1	142750.	25602.	6411.3	9513.6
#2	141770.	25714.	6404.4	9511.6
#3	142040.	25744.	6443.0	9536.1

Zoom In / Zoom Out

Sample Name: jc86398-2 Acquired: 4/22/2019 15:53:19 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1159**	**-.0204**	**-.0022**	**.0044**	**-.0400**	**.0046**	**.0176**	**.7367**	**-.0326**
Stddev	.0072	.0027	.0023	.0017	.0128	.0086	.0018	.0071	.0204
%RSD	6.252	13.40	103.9	38.90	31.98	187.0	10.44	.9685	62.42
#1	.1206	-.0234	.0004	.0028	-.0287	.0008	.0175	.7408	-.0243
#2	.1076	-.0181	-.0034	.0062	-.0374	-.0015	.0195	.7408	-.0558
#3	.1196	-.0196	-.0036	.0041	-.0539	.0145	.0158	.7285	-.0177

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**352.5**	**.2935**	**.0401**	**.0245**	**-.0236**	**.0350**	**-.0000**	**3.809**	**197.9**
Stddev	.3	.0067	.0065	.0502	.0397	.0237	.0820	.294	.3
%RSD	.0948	2.282	16.12	205.2	168.4	67.90	249600.	7.706	.1370
#1	352.1	.3012	.0327	.0184	-.0681	.0168	-.0126	3.818	198.1
#2	352.7	.2904	.0443	.0774	-.0110	.0262	.0875	4.099	198.0
#3	352.7	.2889	.0434	-.0225	.0083	.0618	-.0750	3.512	197.6

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.397**	**829.7**	**57.32**	**1920.**	**.2273**	**4.548**	**-5.572**	**.0222**	**1.900**
Stddev	.106	2.1	1.74	3.	.0375	.018	.088	.0081	.004
%RSD	3.106	.2573	3.040	.1377	16.50	.4039	1.583	36.28	.1832
#1	3.518	831.3	55.33	1923.	.2528	4.568	-5.521	.0264	1.898
#2	3.353	830.6	58.58	1919.	.1842	4.531	-5.522	.0129	1.904
#3	3.321	827.3	58.04	1919.	.2448	4.544	-5.674	.0273	1.897

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0339**	**.1461**	**.0134**	**2258.**	**.0506**	**.0398**	**1.343**
Stddev	.0158	.0467	.0099	1.	.0811	.0438	.072
%RSD	46.51	31.98	74.14	.0327	160.3	109.9	5.380
#1	.0184	.1320	.0193	2259.	.1133	-.0089	1.295
#2	.0499	.1081	.0019	2258.	.0796	.0759	1.308
#3	.0333	.1983	.0189	2258.	-.0410	.0525	1.426

Zoom In / Zoom Out

Sample Name: jc86398-2 Acquired: 4/22/2019 15:53:19 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**140220.**	**25719.**	**6369.3**	**9366.6**
Stddev	1113.	55.	14.0	23.7
%RSD	.79356	.21398	.22046	.25306
#1	141440.	25675.	6353.1	9340.5
#2	139950.	25781.	6378.1	9386.6
#3	139260.	25702.	6376.7	9372.8

Zoom In / Zoom Out

Sample Name: jc86402-1 Acquired: 4/22/2019 15:58:22 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1746**	**.0001**	**.0003**	**.0021**	**.0031**	**.0154**	**.5485**	**.0052**	**-.0003**
Stddev	.0006	.0000	.0002	.0002	.0004	.0006	.0005	.0005	.0004
%RSD	.3507	36.47	57.28	7.668	12.17	3.665	.0896	8.819	130.7
#1	.1740	.0001	.0001	.0021	.0034	.0156	.5490	.0048	.0001
#2	.1752	.0001	.0003	.0019	.0031	.0157	.5485	.0057	-.0005
#3	.1744	.0001	.0005	.0022	.0027	.0147	.5480	.0050	-.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0035**	**.0193**	**.0024**	**.0005**	**.0086**	**-.0015**	**.0004**	**.4787**	**106.6**
Stddev	.0003	.0000	.0014	.0007	.0002	.0023	.0009	.0056	1.6
%RSD	9.956	.1187	58.00	138.9	2.142	152.2	236.9	1.161	1.462
#1	.0033	.0192	.0028	-.0002	.0085	-.0005	.0013	.4725	104.9
#2	.0033	.0193	.0036	.0012	.0088	.0001	.0003	.4805	108.1
#3	.0039	.0193	.0009	.0004	.0084	-.0042	-.0005	.4831	106.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.460**	**11.41**	**14.52**	**97.24**	**.0828**	**.0045**	**10.47**	**-.0022**	**.7733**
Stddev	.002	.02	.02	.10	.0005	.0002	.01	.0001	.0005
%RSD	.1077	.1556	.1238	.1044	.6572	3.990	.1236	3.320	.0701
#1	1.459	11.39	14.52	97.20	.0822	.0046	10.47	-.0023	.7734
#2	1.460	11.41	14.54	97.36	.0832	.0043	10.48	-.0022	.7738
#3	1.462	11.42	14.51	97.17	.0830	.0045	10.45	-.0022	.7727

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0160**	**.0014**	**-.0002**	**8.613**	**.0001**	**.0101**	**1.636**
Stddev	.0001	.0009	.0001	.020	.0028	.0007	.011
%RSD	.6107	65.30	39.33	.2328	2756.	6.997	.6653
#1	.0159	.0012	-.0001	8.616	-.0008	.0093	1.641
#2	.0159	.0006	-.0002	8.591	.0032	.0105	1.624
#3	.0161	.0024	-.0002	8.631	-.0021	.0106	1.645

Zoom In Zoom Out

Sample Name: jc86402-1 Acquired: 4/22/2019 15:58:22 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**138600.**	**26208.**	**6238.7**	**8929.1**
Stddev	354.	97.	9.4	20.6
%RSD	.25550	.36927	.15044	.23054
#1	138830.	26287.	6241.2	8944.2
#2	138190.	26236.	6246.5	8937.5
#3	138770.	26100.	6228.3	8905.7

Zoom In Zoom Out

Sample Name: mp14423-mb1 1 Acquired: 4/22/2019 16:03:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0000**	**-.0002**	**-.0001**	**-.0000**	**.0008**	**.0006**	**.0003**	**-.0001**
Stddev	.0000	.0000	.0001	.0002	.0001	.0004	.0000	.0001	.0003
%RSD	9.824	43.90	50.11	217.7	435.5	54.40	6.299	25.23	307.9
#1	-.0004	-.0001	-.0001	-.0000	-.0001	.0003	.0005	.0003	-.0005
#2	-.0004	-.0000	-.0003	.0000	-.0001	.0010	.0006	.0004	.0001
#3	-.0005	-.0000	-.0004	-.0003	.0001	.0010	.0006	.0002	.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0015**	**.0002**	**.0007**	**.0007**	**-.0015**	**-.0003**	**-.0115**	**.0019**
Stddev	.0003	.0000	.0013	.0004	.0007	.0006	.0013	.0111	.0024
%RSD	53.67	2.712	625.2	57.02	108.6	39.37	401.4	96.63	125.7
#1	-.0008	.0015	.0011	.0012	-.0001	-.0010	-.0007	-.0050	-.0008
#2	-.0003	.0015	-.0012	.0005	.0014	-.0013	-.0015	-.0052	.0027
#3	-.0004	.0015	.0008	.0004	.0007	-.0021	.0012	-.0243	.0039

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0004**	**.0608**	**.0628**	**-.0001**	**-.0002**	**.0025**	**-.0010**	**.0000**
Stddev	.0008	.0190	.0262	.0134	.0003	.0001	.0011	.0002	.0001
%RSD	201.6	5028.	43.05	21.39	288.3	45.65	43.92	17.10	1059.
#1	-.0009	-.0223	.0625	.0647	-.0005	-.0002	.0021	-.0011	-.0001
#2	.0005	.0094	.0861	.0751	-.0001	-.0001	.0038	-.0010	.0001
#3	-.0009	.0118	.0338	.0485	.0002	-.0003	.0017	-.0008	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0009**	**.0000**	**.0089**	**.0016**	**-.0012**	**-.0112**
Stddev	.0006	.0009	.0002	.0037	.0007	.0019	.0018
%RSD	1756.	92.78	1046.	41.11	42.94	164.9	16.00
#1	-.0002	-.0008	.0002	.0124	.0024	-.0006	-.0133
#2	-.0005	-.0002	-.0000	.0051	.0015	-.0033	-.0100
#3	.0006	-.0019	-.0001	.0092	.0010	.0004	-.0103

Zoom In Zoom Out

Sample Name: mp14423-mb1 1 Acquired: 4/22/2019 16:03:39 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**149390.**	**26787.**	**6711.1**	**10343.**
Stddev	432.	125.	15.0	22.
%RSD	.28949	.46780	.22373	.20898
#1	149800.	26682.	6719.7	10364.
#2	149430.	26753.	6693.7	10321.
#3	148940.	26925.	6719.7	10343.

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 16:08:46 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.052**	**2.020**	**2.017**	**2.056**	**2.018**	**2.011**	**2.068**	**2.065**	**.2504**
Stddev	.004	.004	.010	.005	.003	.002	.003	.006	.0002
%RSD	.2066	.2192	.5012	.2282	.1455	.1024	.1440	.2824	.0654
#1	2.057	2.025	2.028	2.061	2.015	2.009	2.064	2.071	.2503
#2	2.051	2.018	2.016	2.054	2.020	2.012	2.068	2.062	.2506
#3	2.049	2.017	2.008	2.052	2.018	2.013	2.070	2.060	.2504
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.018**	**2.045**	**2.026**	**2.110**	**2.052**	**2.030**	**2.027**	**39.96**	**40.14**
Stddev	.003	.011	.010	.011	.008	.009	.009	.06	.10
%RSD	.1526	.5126	.4996	.5074	.3851	.4313	.4379	.1599	.2504
#1	2.015	2.057	2.036	2.118	2.062	2.039	2.037	40.02	40.22
#2	2.021	2.042	2.027	2.115	2.047	2.029	2.024	39.98	40.17
#3	2.019	2.036	2.016	2.098	2.048	2.022	2.020	39.90	40.03
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.67**	**40.00**	**40.47**	**41.28**	**2.053**	**2.047**	**5.292**	**2.057**	**2.049**
Stddev	.07	.13	.13	.06	.010	.010	.027	.014	.001
%RSD	.1841	.3134	.3327	.1544	.4668	.4895	.5070	.6940	.0535
#1	39.72	40.11	40.49	41.31	2.063	2.058	5.319	2.072	2.049
#2	39.71	40.02	40.60	41.33	2.052	2.046	5.292	2.056	2.050
#3	39.59	39.86	40.33	41.21	2.044	2.038	5.266	2.043	2.048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 16:08:46 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.049**	**2.007**	**2.061**	**2.027**	**2.057**	**1.997**	F **2.223**
Stddev	.002	.010	.004	.012	.009	.003	.017
%RSD	.1172	.4781	.2055	.6139	.4144	.1527	.7671
#1	2.046	2.016	2.056	2.039	2.065	2.000	2.235
#2	2.050	2.007	2.064	2.030	2.058	1.995	2.230
#3	2.050	1.997	2.063	2.014	2.048	1.996	2.203
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value							2.000
Range							10.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**137010.**	**25737.**	**6275.3**	**9051.5**
Stddev	226.	280.	45.1	46.7
%RSD	.16459	1.0865	.71894	.51551
#1	136830.	25548.	6226.4	9000.1
#2	137260.	25604.	6284.2	9063.3
#3	136940.	26058.	6315.3	9091.1

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 16:13:48 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0004**	**.0003**	**-.0001**	**.0006**	**.0009**	**.0004**	**.0003**	**-.0001**
Stddev	.0001	.0001	.0001	.0002	.0002	.0002	.0000	.0002	.0002
%RSD	51.29	27.39	30.39	203.8	24.74	25.32	12.83	66.29	162.9
#1	.0001	.0003	.0004	.0001	.0008	.0011	.0003	.0005	.0001
#2	.0001	.0005	.0002	-.0002	.0005	.0009	.0004	.0003	-.0002
#3	.0002	.0004	.0003	-.0001	.0006	.0007	.0004	.0001	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0003**	**.0000**	**.0014**	**-.0000**	**-.0001**	**.0025**	**-.0024**	**.0041**
Stddev	.0003	.0001	.0007	.0007	.0008	.0008	.0007	.0028	.0055
%RSD	184.1	43.83	1651.	52.08	2119.	596.8	28.77	117.3	132.9
#1	.0001	.0002	.0005	.0006	-.0003	.0007	.0022	-.0053	-.0019
#2	.0005	.0003	.0003	.0020	.0009	-.0002	.0020	.0003	.0089
#3	-.0001	.0005	-.0008	.0017	-.0007	-.0009	.0034	-.0023	.0053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0068**	**-.0067**	**.1231**	**.1061**	**.0024**	**.0004**	**.0005**	**.0002**	**.0004**
Stddev	.0032	.0049	.0308	.0071	.0007	.0001	.0004	.0003	.0001
%RSD	47.40	73.16	25.01	6.691	27.59	28.89	73.96	197.0	28.15
#1	.0033	-.0011	.1307	.1013	.0031	.0005	.0007	.0000	.0003
#2	.0097	-.0102	.1493	.1143	.0018	.0005	.0001	-.0001	.0006
#3	.0074	-.0089	.0892	.1028	.0024	.0003	.0008	.0006	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 16:13:48 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0007**	**.0004**	**.0002**	**.0009**	**-.0009**	**-.0038**
Stddev	.0006	.0001	.0000	.0005	.0013	.0013	.0015
%RSD	87.90	18.76	11.77	275.6	156.1	143.7	38.38
#1	.0011	.0006	.0003	.0004	.0007	.0004	-.0022
#2	.0008	.0008	.0004	-.0004	.0023	-.0009	-.0049
#3	.0000	.0008	.0004	.0004	-.0004	-.0023	-.0044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**144610.**	**26055.**	**6498.6**	**9929.4**
Stddev	253.	93.	14.1	20.5
%RSD	.17521	.35629	.21650	.20683
#1	144810.	26135.	6497.3	9927.8
#2	144330.	25953.	6485.3	9909.7
#3	144700.	26077.	6513.3	9950.7

Zoom In Zoom Out

Sample Name: mp14423-b1 1 Acquired: 4/22/2019 16:18:56 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.023**	**1.982**	**2.049**	**2.025**	**1.976**	**1.984**	**2.029**	**2.036**	**.0844**
Stddev	.003	.002	.004	.002	.002	.000	.010	.003	.0003
%RSD	.1254	.1076	.2097	.1141	.1036	.0207	.4855	.1496	.3507
#1	2.026	1.984	2.044	2.023	1.978	1.984	2.037	2.034	.0846
#2	2.021	1.979	2.051	2.026	1.974	1.984	2.018	2.035	.0841
#3	2.023	1.982	2.052	2.027	1.976	1.984	2.032	2.040	.0846

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.972**	**2.040**	**2.065**	**2.150**	**2.050**	**2.079**	**2.099**	**25.06**	**25.13**
Stddev	.002	.003	.009	.009	.002	.007	.005	.04	.03
%RSD	.1215	.1511	.4292	.3932	.0899	.3430	.2357	.1432	.1126
#1	1.972	2.037	2.055	2.141	2.049	2.071	2.096	25.10	25.16
#2	1.969	2.043	2.071	2.157	2.050	2.081	2.098	25.05	25.12
#3	1.974	2.040	2.068	2.153	2.052	2.085	2.105	25.04	25.11

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.84**	**25.28**	**25.43**	**26.26**	**2.072**	**2.058**	**.0054**	**2.108**	**2.020**
Stddev	.04	.06	.06	.05	.005	.006	.0013	.004	.001
%RSD	.1616	.2185	.2234	.1788	.2480	.2795	24.30	.1981	.0413
#1	24.88	25.33	25.49	26.29	2.067	2.051	.0067	2.104	2.021
#2	24.85	25.29	25.41	26.29	2.073	2.062	.0041	2.112	2.019
#3	24.80	25.22	25.38	26.21	2.077	2.060	.0055	2.108	2.020

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.034**	**1.958**	**2.050**	**.0225**	**.1252**	**-.0039**	**2.097**
Stddev	.003	.009	.002	.0019	.0020	.0028	.009
%RSD	.1691	.4836	.1186	8.378	1.619	71.72	.4275
#1	2.034	1.947	2.049	.0206	.1228	-.0069	2.092
#2	2.031	1.963	2.047	.0225	.1265	-.0014	2.108
#3	2.038	1.963	2.052	.0244	.1262	-.0033	2.092

Zoom In Zoom Out

Sample Name: mp14423-b1 1 Acquired: 4/22/2019 16:18:56 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143070.**	**26254.**	**6470.6**	**9466.6**
Stddev	152.	123.	11.5	10.2
%RSD	.10597	.46711	.17725	.10804
#1	143010.	26234.	6481.1	9477.5
#2	142960.	26143.	6458.4	9457.1
#3	143240.	26386.	6472.4	9465.2

Zoom In Zoom Out

Sample Name: jc86634-6 Acquired: 4/22/2019 16:23:55 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0000**	**-.0001**	**-.0002**	**.0004**	**.0025**	**.0022**	**.0015**	**-.0003**
Stddev	.0002	.0001	.0001	.0002	.0002	.0004	.0000	.0001	.0002
%RSD	47.85	326.5	67.00	120.0	59.84	15.17	1.317	6.984	72.80
#1	.0005	.0001	-.0001	-.0004	.0007	.0026	.0022	.0016	-.0004
#2	.0002	.0000	-.0000	-.0000	.0003	.0021	.0021	.0014	-.0000
#3	.0005	-.0000	-.0002	-.0001	.0002	.0029	.0022	.0015	-.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0020**	**.0002**	**.0010**	**.0004**	**-.0041**	**-.0007**	**-.0061**	**.1480**
Stddev	.0002	.0001	.0011	.0009	.0004	.0005	.0012	.0105	.0007
%RSD	87.36	5.574	666.9	91.27	102.0	10.99	162.5	172.3	.4779
#1	-.0001	.0021	.0015	.0020	.0001	-.0044	-.0010	-.0170	.1473
#2	-.0001	.0019	-.0005	.0007	.0009	-.0036	-.0017	-.0053	.1479
#3	-.0005	.0020	-.0004	.0003	.0002	-.0044	.0006	.0040	.1487

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.0597**	**.0610**	**.5658**	**.0059**	**.0003**	**.3957**	**-.0009**	**.0009**
Stddev	.0008	.0023	.0250	.0106	.0003	.0001	.0008	.0003	.0001
%RSD	68.47	3.909	40.93	1.865	5.194	22.16	.2065	32.81	7.759
#1	.0018	.0575	.0350	.5540	.0063	.0004	.3951	-.0010	.0009
#2	.0013	.0621	.0631	.5743	.0058	.0003	.3954	-.0005	.0008
#3	.0003	.0596	.0848	.5692	.0058	.0003	.3966	-.0010	.0010

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0043**	**.0003**	**.0084**	**.0007**	**-.0037**	**.0050**
Stddev	.0001	.0015	.0001	.0016	.0007	.0012	.0024
%RSD	147.7	33.88	37.06	18.56	88.28	33.51	48.48
#1	-.0002	.0043	.0003	.0101	.0015	-.0038	.0027
#2	.0001	.0029	.0004	.0071	.0004	-.0048	.0075
#3	-.0002	.0058	.0002	.0081	.0004	-.0024	.0048

Zoom In Zoom Out

Sample Name: jc86634-6 Acquired: 4/22/2019 16:23:55 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147480.**	**26208.**	**6606.2**	**10188.**
Stddev	447.	56.	1.9	3.
%RSD	.30293	.21518	.02903	.02541
#1	147930.	26229.	6607.9	10191.
#2	147460.	26144.	6604.1	10187.
#3	147040.	26251.	6606.5	10187.

Zoom In Zoom Out

Sample Name: jc86634-6f Acquired: 4/22/2019 16:29:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0015**	**.0000**	**-.0000**	**-.0002**	**.0005**	**.0022**	**.0003**	**.0005**	**-.0002**
Stddev	.0002	.0000	.0002	.0001	.0002	.0001	.0000	.0002	.0002
%RSD	16.47	54.64	1348.	48.49	43.10	6.265	12.93	37.27	94.42
#1	.0017	.0000	-.0001	-.0001	.0003	.0022	.0003	.0006	-.0003
#2	.0016	.0001	-.0002	-.0003	.0008	.0021	.0003	.0006	.0000
#3	.0012	.0000	.0003	-.0002	.0005	.0024	.0003	.0003	-.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0049**	**.0015**	**.0009**	**-.0004**	**-.0013**	**.0007**	**.0011**	**.0419**
Stddev	.0001	.0001	.0009	.0004	.0004	.0017	.0020	.0054	.0015
%RSD	21.91	1.673	63.74	43.39	84.32	132.4	290.7	480.5	3.603
#1	-.0005	.0050	.0004	.0009	-.0007	-.0032	-.0001	-.0015	.0410
#2	-.0006	.0050	.0023	.0005	-.0000	-.0003	.0030	.0073	.0411
#3	-.0004	.0048	.0017	.0012	-.0006	-.0003	-.0008	-.0025	.0437

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0031**	**.0088**	**.0981**	**.2894**	**.0026**	**.0002**	**.1497**	**-.0003**	**.0016**
Stddev	.0002	.0122	.0293	.0110	.0004	.0001	.0036	.0006	.0000
%RSD	5.354	138.3	29.84	3.794	14.63	84.65	2.406	215.4	3.036
#1	.0030	.0079	.1232	.2804	.0028	.0003	.1536	.0004	.0016
#2	.0032	.0214	.1053	.3016	.0028	.0000	.1488	-.0008	.0017
#3	.0033	-.0029	.0660	.2861	.0022	.0002	.1466	-.0005	.0016

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0012**	**.0002**	**.0038**	**.0029**	**-.0037**	**.0032**
Stddev	.0003	.0002	.0002	.0010	.0003	.0003	.0037
%RSD	88.17	16.86	113.1	26.12	11.62	7.439	117.3
#1	.0000	.0010	-.0001	.0045	.0026	-.0035	-.0004
#2	.0004	.0012	.0003	.0027	.0028	-.0035	.0029
#3	.0007	.0014	.0003	.0043	.0032	-.0040	.0071

Zoom In Zoom Out

Sample Name: jc86634-6f Acquired: 4/22/2019 16:29:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**148400.**	**26992.**	**6537.1**	**10096.**
Stddev	3278.	683.	48.6	55.
%RSD	2.2088	2.5288	.74288	.54011
#1	145820.	27755.	6481.2	10034.
#2	147290.	26441.	6568.1	10137.
#3	152090.	26778.	6562.1	10118.

Zoom In Zoom Out

Sample Name: icsa 7 Acquired: 4/22/2019 16:34:07 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0001**	**-.0002**	**.0013**	**-.0001**	**-.0036**	**.0006**	**-.0002**	**.0031**
Stddev	.0002	.0001	.0001	.0003	.0002	.0002	.0002	.0003	.0006
%RSD	45.19	66.06	46.94	24.63	258.8	4.292	29.79	149.0	20.72
#1	.0007	.0001	-.0002	.0011	.0002	-.0035	.0006	.0002	.0036
#2	.0004	.0002	-.0003	.0012	-.0001	-.0038	.0004	-.0004	.0024
#3	.0003	.0000	-.0001	.0017	-.0003	-.0036	.0007	-.0005	.0033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**-.0012**	**.0006**	**-.0023**	**-.0013**	**.0000**	**-.0004**	**505.5**	**381.2**
Stddev	.0002	.0001	.0023	.0006	.0015	.0023	.0027	4.3	3.4
%RSD	26.31	4.847	369.1	26.13	113.0	66930.	628.0	.8464	.8843
#1	-.0008	-.0012	.0031	-.0027	.0002	.0026	-.0006	510.5	377.3
#2	-.0005	-.0011	-.0014	-.0027	-.0029	-.0012	-.0030	502.9	383.0
#3	-.0006	-.0012	.0002	-.0016	-.0013	-.0014	.0023	503.2	383.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**186.8**	**492.3**	**.4550**	**.2409**	**-.0004**	**.0010**	**.0033**	**-.0019**	**-.0003**
Stddev	1.2	1.3	.0415	.0171	.0013	.0006	.0015	.0009	.0000
%RSD	.6345	.2644	9.124	7.102	315.6	60.64	44.46	46.06	8.736
#1	186.0	490.9	.4408	.2258	-.0006	.0012	.0024	-.0025	-.0003
#2	186.2	492.6	.5017	.2372	-.0016	.0015	.0050	-.0009	-.0003
#3	188.1	493.5	.4224	.2595	.0009	.0003	.0025	-.0024	-.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: icsa 7 Acquired: 4/22/2019 16:34:07 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0017**	**.0068**	**-.0009**	**.0170**	**-.0028**	**-.0090**	**.0355**
Stddev	.0004	.0014	.0002	.0023	.0011	.0014	.0021
%RSD	20.93	19.95	19.40	13.72	38.59	15.58	5.780
#1	-.0014	.0057	-.0007	.0161	-.0040	-.0104	.0351
#2	-.0017	.0084	-.0008	.0197	-.0019	-.0076	.0337
#3	-.0021	.0065	-.0011	.0153	-.0024	-.0091	.0378
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**124000.**	**24752.**	**5752.1**	**8176.6**
Stddev	280.	89.	16.3	16.6
%RSD	.22614	.35774	.28290	.20300
#1	123800.	24843.	5749.9	8175.8
#2	124320.	24666.	5737.0	8160.5
#3	123870.	24748.	5769.3	8193.6

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/22/2019 16:39:29 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5192**	**.4916**	**1.005**	**.4891**	**.4884**	**.5010**	**.5111**	**.9712**	**1.134**
Stddev	.0015	.0018	.002	.0011	.0008	.0019	.0005	.0008	.002
%RSD	.2978	.3750	.1652	.2270	.1709	.3709	.1043	.0825	.2053
#1	.5189	.4914	1.004	.4880	.4885	.5029	.5115	.9703	1.136
#2	.5208	.4935	1.004	.4902	.4875	.5011	.5105	.9713	1.133
#3	.5178	.4898	1.007	.4891	.4891	.4992	.5112	.9719	1.131
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4972**	**.9524**	**1.068**	**.9710**	**.9551**	**1.052**	**1.075**	**507.1**	**366.1**
Stddev	.0004	.0012	.003	.0072	.0011	.004	.002	7.8	2.1
%RSD	.0761	.1249	.2414	.7457	.1191	.3390	.2268	1.543	.5712
#1	.4977	.9519	1.070	.9792	.9538	1.056	1.073	500.2	365.3
#2	.4970	.9515	1.069	.9683	.9557	1.050	1.075	505.6	368.4
#3	.4970	.9537	1.065	.9655	.9559	1.049	1.078	515.6	364.4
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**189.9**	**497.7**	**.3106**	**.1820**	**.4813**	**.4881**	**.5122**	**.4717**	**.5147**
Stddev	3.5	1.1	.0312	.0114	.0016	.0006	.0015	.0004	.0005
%RSD	1.841	.2309	10.04	6.244	.3428	.1236	.2966	.0849	.1027
#1	193.7	498.3	.3314	.1755	.4801	.4876	.5106	.4721	.5149
#2	189.3	498.3	.2748	.1754	.4831	.4888	.5125	.4714	.5151
#3	186.8	496.3	.3256	.1951	.4805	.4881	.5135	.4715	.5141
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/22/2019 16:39:29 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5063**	**.4820**	**.4949**	**.5105**	**.5067**	**.5330**	**.4963**
Stddev	.0007	.0005	.0009	.0027	.0021	.0038	.0035
%RSD	.1352	.0966	.1756	.5354	.4209	.7174	.7032
#1	.5058	.4814	.4958	.5136	.5047	.5310	.4960
#2	.5071	.4821	.4949	.5094	.5063	.5374	.4930
#3	.5059	.4823	.4941	.5085	.5090	.5305	.4999
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**125300.**	**24853.**	**5790.0**	**8249.8**
Stddev	257.	154.	13.5	21.5
%RSD	.20518	.61776	.23229	.26089
#1	125030.	24691.	5779.7	8227.3
#2	125540.	24873.	5805.2	8270.1
#3	125310.	24996.	5785.0	8252.0

Zoom In Zoom Out

Sample Name: mp14421-b1 1 Acquired: 4/22/2019 16:44:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.100**	**2.044**	**2.111**	**2.078**	**2.040**	**2.048**	**2.085**	**2.092**	**.0880**
Stddev	.002	.001	.003	.002	.002	.004	.013	.003	.0002
%RSD	.1116	.0675	.1217	.1047	.1176	.1804	.6152	.1279	.2049
#1	2.100	2.043	2.110	2.075	2.038	2.044	2.074	2.089	.0882
#2	2.103	2.045	2.114	2.080	2.040	2.049	2.082	2.095	.0879
#3	2.098	2.043	2.109	2.078	2.043	2.051	2.099	2.093	.0880

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.025**	**2.096**	**2.124**	**2.201**	**2.109**	**2.137**	**2.163**	**26.05**	**26.15**
Stddev	.004	.004	.002	.007	.003	.003	.007	.02	.01
%RSD	.1804	.2109	.0702	.3388	.1290	.1608	.3299	.0876	.0380
#1	2.023	2.096	2.123	2.193	2.108	2.134	2.160	26.05	26.14
#2	2.023	2.100	2.125	2.204	2.112	2.137	2.171	26.07	26.16
#3	2.029	2.091	2.122	2.207	2.106	2.140	2.158	26.03	26.15

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.66**	**26.08**	**26.32**	**27.09**	**2.134**	**2.127**	**.0062**	**2.161**	**2.083**
Stddev	.02	.01	.04	.05	.003	.005	.0010	.003	.002
%RSD	.0970	.0434	.1649	.1715	.1600	.2374	15.65	.1520	.1108
#1	25.63	26.07	26.27	27.05	2.133	2.122	.0057	2.159	2.081
#2	25.68	26.09	26.35	27.14	2.138	2.132	.0074	2.165	2.086
#3	25.66	26.09	26.35	27.08	2.131	2.127	.0056	2.159	2.083

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.092**	**1.979**	**2.108**	**.0238**	**.1280**	**-.0047**	**1.895**
Stddev	.004	.007	.002	.0003	.0013	.0021	.004
%RSD	.1996	.3573	.0811	1.382	1.002	45.55	.1912
#1	2.090	1.974	2.107	.0242	.1293	-.0030	1.896
#2	2.089	1.987	2.107	.0237	.1267	-.0071	1.892
#3	2.097	1.977	2.110	.0235	.1282	-.0040	1.899

Zoom In Zoom Out

Sample Name: mp14421-b1 1 Acquired: 4/22/2019 16:44:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**140790.**	**26062.**	**6375.2**	**9328.7**
Stddev	869.	116.	15.5	10.0
%RSD	.61707	.44394	.24254	.10771
#1	141170.	26116.	6364.7	9321.2
#2	141390.	26140.	6368.0	9324.7
#3	139790.	25929.	6393.0	9340.1

Zoom In Zoom Out

Sample Name: mp14421-mb1 1 Acquired: 4/22/2019 16:49:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0000**	**-.0001**	**-.0002**	**.0000**	**.0006**	**.0000**	**.0002**	**.0001**
Stddev	.0002	.0000	.0001	.0002	.0002	.0003	.0000	.0001	.0003
%RSD	62.34	69.68	166.2	148.1	1810.	56.71	159.3	44.19	191.3
#1	-.0002	-.0000	.0000	-.0004	.0002	.0002	.0001	.0002	-.0001
#2	-.0006	-.0000	-.0001	.0000	-.0002	.0007	.0000	.0003	.0004
#3	-.0003	-.0000	-.0002	-.0001	-.0000	.0008	-.0000	.0001	.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0006**	**.0021**	**.0003**	**.0016**	**.0010**	**-.0014**	**-.0015**	**-.0038**	**.0160**
Stddev	.0001	.0001	.0006	.0015	.0010	.0011	.0017	.0055	.0016
%RSD	15.91	3.589	199.2	93.66	97.24	81.05	112.0	144.3	9.955
#1	-.0006	.0021	-.0002	.0034	.0002	-.0023	-.0002	-.0087	.0169
#2	-.0007	.0020	.0009	.0010	.0007	-.0016	-.0034	.0021	.0169
#3	-.0005	.0020	.0002	.0005	.0021	-.0002	-.0009	-.0048	.0142

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0027**	**-.0021**	**.0438**	**.0228**	**.0012**	**.0004**	**.0008**	**-.0012**	**.0001**
Stddev	.0009	.0030	.0460	.0142	.0001	.0000	.0000	.0003	.0001
%RSD	33.12	146.8	105.0	62.29	10.74	8.012	4.097	26.91	74.35
#1	.0034	-.0005	.0615	.0330	.0013	.0004	.0009	-.0010	.0001
#2	.0031	-.0055	.0784	.0288	.0011	.0004	.0008	-.0015	.0000
#3	.0017	-.0001	-.0084	.0066	.0011	.0004	.0008	-.0010	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0030**	**.0002**	**.0040**	**.0009**	**-.0021**	**.0149**
Stddev	.0001	.0002	.0001	.0015	.0014	.0013	.0012
%RSD	40.83	8.189	68.18	37.90	155.0	65.63	8.059
#1	.0003	.0033	.0000	.0047	.0026	-.0036	.0135
#2	.0001	.0028	.0002	.0051	-.0002	-.0016	.0158
#3	.0002	.0031	.0003	.0023	.0005	-.0010	.0153

Zoom In Zoom Out

Sample Name: mp14421-mb1 1 Acquired: 4/22/2019 16:49:47 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**147700.**	**26273.**	**6757.5**	**10373.**
Stddev	764.	128.	200.5	233.
%RSD	.51714	.48839	2.9674	2.2443
#1	147130.	26224.	6635.7	10233.
#2	147400.	26419.	6647.9	10244.
#3	148570.	26177.	6989.0	10642.

Zoom In Zoom Out

Sample Name: mp14421-mb2 Acquired: 4/22/2019 16:54:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0000**	**-.0000**	**-.0002**	**.0000**	**.0018**	**.0002**	**.0004**	**.0000**
Stddev	.0001	.0001	.0000	.0001	.0002	.0003	.0000	.0004	.0001
%RSD	42.01	150.4	936.6	68.20	613.6	14.69	7.020	100.4	1177.
#1	-.0004	-.0001	-.0000	-.0001	.0002	.0019	.0003	.0001	-.0001
#2	-.0002	.0000	.0000	-.0002	.0001	.0015	.0002	.0008	.0001
#3	-.0002	-.0001	-.0000	-.0003	-.0002	.0020	.0002	.0002	-.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0006**	**.0040**	**.0007**	**.0008**	**.0007**	**.0000**	**-.0014**	**.0083**	**.0090**
Stddev	.0002	.0001	.0005	.0004	.0006	.0021	.0005	.0120	.0010
%RSD	33.40	2.818	63.45	48.86	89.51	22700.	39.58	143.7	11.48
#1	-.0006	.0041	.0012	.0003	.0011	-.0005	-.0012	.0090	.0084
#2	-.0008	.0039	.0006	.0009	.0009	.0023	-.0020	-.0040	.0101
#3	-.0004	.0039	.0004	.0011	-.0000	-.0018	-.0009	.0199	.0083

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0034**	**.0019**	**.0695**	**.0463**	**.0011**	**.0002**	**.0057**	**-.0004**	**.0001**
Stddev	.0014	.0045	.0086	.0091	.0005	.0000	.0019	.0002	.0000
%RSD	40.13	242.9	12.44	19.70	41.25	18.48	33.10	42.48	30.01
#1	.0046	-.0034	.0768	.0403	.0015	.0002	.0078	-.0002	.0001
#2	.0019	.0048	.0600	.0417	.0006	.0002	.0041	-.0006	.0001
#3	.0037	.0042	.0718	.0568	.0013	.0002	.0053	-.0004	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0019**	**.0001**	**.0082**	**.0024**	**-.0032**	**.0125**
Stddev	.0002	.0006	.0001	.0015	.0017	.0018	.0019
%RSD	162.5	32.27	162.4	18.17	70.98	57.28	15.11
#1	-.0004	.0020	.0002	.0067	.0018	-.0012	.0147
#2	.0000	.0024	-.0001	.0081	.0011	-.0038	.0113
#3	-.0000	.0012	.0001	.0097	.0043	-.0047	.0115

Zoom In Zoom Out

Sample Name: mp14421-mb2 Acquired: 4/22/2019 16:54:54 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**148020.**	**26490.**	**6695.8**	**10265.**
Stddev	1175.	157.	19.7	16.
%RSD	.79363	.59414	.29444	.15691
#1	146730.	26325.	6683.8	10253.
#2	149040.	26506.	6685.0	10257.
#3	148270.	26639.	6718.5	10283.

Zoom In Zoom Out

Sample Name: mp14421-b2 Acquired: 4/22/2019 17:00:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.909**	**1.857**	**1.902**	**1.886**	**1.854**	**1.858**	**1.879**	**1.901**	**.2482**
Stddev	.003	.004	.002	.003	.003	.004	.009	.002	.0006
%RSD	.1524	.1892	.1205	.1423	.1661	.2196	.4581	.0922	.2345
#1	1.909	1.860	1.904	1.888	1.857	1.859	1.882	1.902	.2486
#2	1.911	1.857	1.901	1.885	1.851	1.853	1.869	1.899	.2475
#3	1.905	1.853	1.900	1.883	1.855	1.861	1.886	1.902	.2484

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.836**	**1.906**	**1.879**	**2.007**	**1.914**	**1.922**	**1.910**	**23.69**	**23.78**
Stddev	.002	.005	.001	.003	.002	.005	.003	.02	.06
%RSD	.0854	.2411	.0653	.1716	.1177	.2397	.1621	.1029	.2319
#1	1.838	1.912	1.878	2.008	1.916	1.925	1.912	23.71	23.82
#2	1.835	1.903	1.881	2.010	1.914	1.924	1.906	23.70	23.80
#3	1.835	1.904	1.879	2.003	1.912	1.917	1.910	23.67	23.72

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.42**	**23.75**	**24.05**	**24.72**	**1.916**	**1.885**	**.0059**	**1.918**	**1.894**
Stddev	.04	.05	.06	.01	.003	.001	.0015	.004	.001
%RSD	.1504	.2186	.2491	.0420	.1736	.0764	26.21	.2298	.0245
#1	23.43	23.80	24.11	24.71	1.920	1.886	.0076	1.923	1.895
#2	23.44	23.77	24.06	24.71	1.914	1.883	.0054	1.917	1.895
#3	23.38	23.70	23.99	24.73	1.914	1.884	.0047	1.914	1.894

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.861**	**1.708**	**1.873**	**.0249**	**.1127**	**-.0054**	**1.798**
Stddev	.001	.003	.002	.0032	.0014	.0011	.015
%RSD	.0519	.1704	.0788	12.96	1.214	20.65	.8576
#1	1.861	1.707	1.875	.0219	.1130	-.0041	1.782
#2	1.861	1.706	1.872	.0246	.1112	-.0062	1.799
#3	1.860	1.711	1.872	.0283	.1138	-.0059	1.813

Zoom In Zoom Out

Sample Name: mp14421-b2 Acquired: 4/22/2019 17:00:01 Type: Unk
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**142560.**	**26396.**	**6463.4**	**9440.8**
Stddev	253.	91.	14.5	20.3
%RSD	.17730	.34457	.22416	.21486
#1	142380.	26354.	6463.8	9446.1
#2	142850.	26334.	6477.6	9457.9
#3	142440.	26501.	6448.7	9418.4

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 17:05:02 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.089**	**2.042**	**2.031**	**2.063**	**2.035**	**2.027**	**2.061**	**2.078**	**.2525**
Stddev	.006	.003	.001	.001	.004	.003	.017	.001	.0004
%RSD	.2699	.1661	.0543	.0701	.1832	.1670	.8228	.0670	.1397
#1	2.095	2.045	2.031	2.064	2.037	2.029	2.053	2.079	.2523
#2	2.089	2.041	2.031	2.063	2.037	2.029	2.080	2.077	.2529
#3	2.083	2.038	2.029	2.062	2.031	2.023	2.049	2.076	.2522
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.022**	**2.052**	**2.043**	**2.110**	**2.066**	**2.045**	**2.046**	**40.51**	**40.67**
Stddev	.003	.001	.004	.012	.005	.003	.004	.06	.08
%RSD	.1518	.0634	.1840	.5462	.2540	.1616	.1921	.1507	.2047
#1	2.024	2.051	2.044	2.113	2.067	2.043	2.043	40.53	40.76
#2	2.024	2.054	2.039	2.098	2.070	2.044	2.046	40.55	40.66
#3	2.019	2.051	2.046	2.121	2.060	2.049	2.051	40.44	40.60
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.99**	**40.31**	**41.10**	**41.65**	**2.070**	**2.070**	**5.324**	**2.060**	**2.072**
Stddev	.07	.04	.01	.02	.003	.002	.003	.005	.004
%RSD	.1845	.0891	.0181	.0471	.1189	.1167	.0623	.2662	.2120
#1	40.05	40.35	41.09	41.66	2.069	2.071	5.324	2.062	2.076
#2	40.01	40.31	41.10	41.67	2.073	2.067	5.327	2.054	2.073
#3	39.91	40.28	41.11	41.63	2.068	2.071	5.320	2.065	2.068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 4/22/2019 17:05:02 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.053**	**2.043**	**2.068**	**1.991**	**2.073**	**2.013**	**1.954**
Stddev	.002	.001	.002	.008	.003	.004	.004
%RSD	.1077	.0424	.0785	.3966	.1497	.1929	.2083
#1	2.053	2.043	2.069	1.997	2.070	2.017	1.952
#2	2.055	2.042	2.070	1.982	2.074	2.013	1.952
#3	2.051	2.044	2.067	1.995	2.076	2.010	1.959
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**135870.**	**25438.**	**6214.4**	**8954.8**
Stddev	732.	99.	5.9	9.6
%RSD	.53881	.39026	.09545	.10671
#1	135340.	25343.	6211.9	8944.4
#2	135560.	25429.	6210.1	8956.8
#3	136710.	25541.	6221.1	8963.2

Zoom In Zoom Out

Sample Name: ccb Acquired: 4/22/2019 17:10:04 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0000**	**.0000**	**-.0004**	**.0000**	**.0002**	**.0001**	**.0001**	**-.0004**
Stddev	.0003	.0001	.0001	.0001	.0003	.0001	.0001	.0004	.0008
%RSD	220.4	146.6	530.9	15.47	982.5	38.69	63.66	276.0	181.7
#1	.0001	-.0001	.0000	-.0004	.0002	.0002	.0000	.0000	-.0006
#2	-.0000	-.0000	.0002	-.0005	-.0003	.0002	.0001	.0006	.0004
#3	-.0005	-.0000	-.0001	-.0004	.0002	.0003	.0001	-.0002	-.0012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0002**	**-.0006**	**.0003**	**.0001**	**-.0014**	**.0007**	**-.0004**	**-.0044**
Stddev	.0004	.0000	.0015	.0007	.0010	.0006	.0003	.0113	.0014
%RSD	558.1	11.93	244.2	221.6	1803.	41.69	44.46	2904.	32.52
#1	.0001	.0002	.0001	.0001	.0009	-.0021	.0005	-.0087	-.0060
#2	.0003	.0003	-.0024	.0011	.0003	-.0010	.0010	.0124	-.0041
#3	-.0006	.0002	.0004	-.0003	-.0010	-.0012	.0005	-.0049	-.0032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0002**	**.1140**	**.0823**	**.0037**	**.0005**	**-.0004**	**-.0002**	**-.0000**
Stddev	.0003	.0031	.0228	.0085	.0004	.0003	.0011	.0007	.0000
%RSD	95.15	1542.	19.97	10.30	11.22	49.76	281.0	319.1	260.6
#1	.0000	-.0029	.1391	.0781	.0040	.0003	-.0016	.0001	.0000
#2	-.0005	-.0009	.0947	.0766	.0038	.0004	.0000	-.0010	-.0000
#3	-.0005	.0032	.1081	.0920	.0032	.0008	.0004	.0003	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: ccb Acquired: 4/22/2019 17:10:04 Type: QC
Method: SGS 3 NO Valve(v286) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	F **.0086**	**.0001**	**.0025**	**.0029**	**.0018**	**.0101**
Stddev	.0004	.0003	.0002	.0003	.0012	.0018	.0017
%RSD	259.4	3.823	138.2	10.26	41.70	99.22	16.53
#1	.0006	.0084	.0002	.0026	.0035	.0036	.0082
#2	-.0002	.0090	-.0001	.0022	.0015	.0019	.0111
#3	.0000	.0085	.0003	.0027	.0037	-.0000	.0111
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0050					
Low Limit		-.0050					

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**143400.**	**25689.**	**6494.6**	**9902.7**
Stddev	1086.	61.	17.9	28.5
%RSD	.75764	.23775	.27618	.28806
#1	143620.	25749.	6473.9	9871.2
#2	142220.	25692.	6505.7	9909.9
#3	144360.	25627.	6504.3	9926.8

NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ba 455.403 { 74}	☒	1	Zr	0.001245	0.000000	No
Be 313.042 {108}	☒	6	V	0.001406	0.000000	No
			Mo	-0.000047	0.000000	No
			Ti	-0.000191	0.000000	No
			Mn	0.000010	0.000000	No
			Cu	0.000014	0.000000	No
			Bi	0.000060	0.000000	No
Cd 228.802 {448}	☒	11	As	0.009200	0.000000	No
			Ni	-0.000628	0.000000	No
			Fe	-0.000003	0.000000	No
			V	0.000091	0.000000	No
			Ba	0.000064	0.000000	No
			Co	-0.000830	0.000000	No
			Sr	-0.000020	0.000000	No
			Mn	0.000050	0.000000	No
			Cu	-0.000026	0.000000	No
			Zn	-0.000018	0.000000	No
			W	-0.000482	0.000000	No
Co 228.616 {448}	☒	7	Fe	0.000009	0.000000	No
			Mo	-0.000790	0.000000	No
			Ni	0.000091	0.000000	No
			Ti	0.002192	0.000000	No
			Ba	0.000140	0.000000	No
			W	0.000327	0.000000	No
			Cd	-0.000510	0.000000	No
Cr 267.716 {126}	☒	9	Mn	0.000348	0.000000	No
			V	0.000090	0.000000	No
			Mo	-0.000082	0.000000	No
			Fe	-0.000005	0.000000	No
			Ti	0.000060	0.000000	No
			Ba	0.000045	0.000000	No
			Cu	0.000100	0.000000	No
			Sr	-0.000100	0.000000	No
			W	0.000404	0.000000	No
Cu 324.754 {104}2	☒	13	Cr	-0.000004	0.000000	No
			V	-0.000397	0.000000	No
			Mo	0.000544	0.000000	No
			Ti	-0.000208	0.000000	No
			Fe	-0.000226	0.000000	No
			Zn	-0.000041	0.000000	No
			Co	-0.001373	0.000000	No
			Si	0.000016	0.000000	No
			Mn	0.000003	0.000000	No
			Se	0.000050	0.000000	No
			Sb	0.000069	0.000000	No
			W	0.000000	0.000000	No
			Al	0.000004	0.000000	No
Mn 257.610 {131}	☒	4	Fe	-0.000107	0.000000	No
			Si	0.000010	0.000000	No
			Ba	0.000004	0.000000	No
			Ni	0.000028	0.000000	No
Ni 231.604 {446}	☒	8	Fe	0.000008	0.000000	No
			Zn	-0.000013	0.000000	No
			Be	0.000213	0.000000	No
			Co	-0.000220	0.000000	No
			Tl	0.000209	0.000000	No
			Mo	0.000026	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Cu	0.000050	0.000000	No
			Se	0.000100	0.000000	No
Ag 328.068 {103}	☒	14	Mn	0.000252	0.000000	No
			Mo	0.000012	-0.000003	No
			Ti	-0.000090	0.000000	No
			Fe	-0.000303	0.000000	No
			Zn	-0.000120	0.000000	No
			Ca	-0.000001	0.000000	No
			Zr	0.007115	0.000000	No
			Sr	-0.000020	0.000000	No
			Mg	0.000000	0.000000	No
			Ba	0.000071	0.000000	No
			Cr	0.000022	0.000000	No
			V	-0.003037	0.000000	No
			Al	-0.000006	0.000000	No
			W	0.000000	0.000000	No
V 292.402 {115}	☒	6	Ti	0.000689	0.000000	No
			Mo	-0.000304	0.000000	No
			Fe	0.000029	0.000000	No
			Sr	-0.000100	0.000000	No
			Cr	-0.007936	0.000000	No
			Mn	-0.002777	0.000000	No
Zn 206.200 {464}	☒	9	Cr	-0.000850	0.000000	No
			Fe	0.000011	0.000000	No
			Si	0.000015	0.000000	No
			Mn	-0.000045	0.000000	No
			Ba	-0.000060	0.000000	No
			Sn	-0.000023	0.000000	No
			Cu	0.000148	0.000000	No
			As	0.000055	0.000000	No
			Be	0.000058	0.000000	No
As 189.042 {478}	☒	18	Al	0.000014	0.000000	No
			Fe	-0.000190	0.000000	No
			Ca	0.000004	0.000000	No
			Mo	0.002950	0.000000	No
			Cr	0.001094	0.000000	No
			Ba	0.000186	0.000000	No
			Sn	-0.000130	0.000000	No
			Cd	-0.000328	0.000000	No
			Si	0.000024	0.000000	No
			Zn	-0.000082	0.000000	No
			Sr	-0.000045	0.000000	No
			W	0.000000	0.000000	No
			Cu	-0.000058	0.000000	No
			Co	0.000047	0.000000	No
			Zr	0.000036	0.000000	No
			Mn	0.000022	0.000000	No
			S	0.000010	0.000000	No
			Ti	0.000100	0.000000	No
Tl 190.856 {477}	☒	24	Cr	0.000315	0.000000	No
			Mo	-0.009700	0.000000	No
			Al	-0.000003	0.000000	No
			Fe	-0.000032	0.000000	No
			V	-0.028088	0.000000	No
			Mn	0.002390	0.000000	No
			Si	-0.000018	0.000000	No
			Ca	0.000000	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Ti	-0.002590	0.000000	No
				Mg	0.000000	0.000000	No
				Co	0.005080	0.000000	No
				Sr	0.000010	0.000000	No
				B	-0.000003	0.000000	No
				Ba	0.000034	0.000000	No
				Zn	-0.000023	0.000000	No
				As	0.000068	0.000000	No
				W	-0.007000	0.000000	No
				Cu	0.000142	0.000000	No
				Pb	-0.000020	0.000000	No
				S	0.000010	0.000000	No
				Sn	-0.000086	0.000000	No
				Li	0.000000	0.000000	No
				K	0.000000	0.000000	No
				Zr	0.000000	0.000000	No
	Pb 220.353 {453}	☒	20	Al	-0.000169	0.000000	No
				Fe	0.000034	0.000000	No
				Ca	0.000005	0.000000	No
				Mn	0.000154	0.000000	No
				Mo	-0.000300	0.000000	No
				Cu	0.000154	0.000000	No
				Co	0.000264	0.000000	No
				Ti	-0.000100	0.000000	No
				Si	-0.000067	0.000000	No
				Ba	-0.000022	0.000000	No
				Sb	-0.000084	0.000000	No
				Sr	-0.000033	0.000000	No
				W	0.000000	0.000000	No
				Mg	0.000004	0.000000	No
				Cd	0.000012	0.000000	No
				Cr	-0.000031	0.000000	No
				Zr	-0.000281	0.000000	No
				Ni	0.000371	0.000000	No
				S	0.000010	0.000000	No
				Zn	-0.000106	0.000000	No
	Se 196.090 {472}	☒	23	Al	-0.000002	0.000000	No
				Ca	-0.000007	0.000000	No
				Mn	0.000594	0.000000	No
				Mo	0.000400	0.000000	No
				Fe	-0.000172	0.000000	No
				Co	-0.000182	0.000000	No
				Sr	-0.000011	0.000000	No
				Cu	-0.000087	0.000000	No
				W	0.000000	0.000000	No
				Si	0.000054	0.000000	No
				Be	-0.000347	0.000000	No
				Zn	0.000050	0.000000	No
				B	0.000028	0.000000	No
				Ti	-0.000020	0.000000	No
				Cd	0.000090	0.000000	No
				Zr	-0.000297	0.000000	No
				Ba	-0.000046	0.000000	No
				Mg	-0.000000	0.000000	No
				Pb	-0.000078	0.000000	No
				Ni	-0.000100	0.000000	No
				Cr	-0.000024	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			S	-0.000014	0.000000	No
			V	0.000188	0.000000	No
Sb 206.833 {463}	☒	17	Fe	0.000001	0.000000	No
			Al	0.000015	0.000000	No
			Ca	0.000001	0.000000	No
			Ni	-0.000716	0.000000	No
			Cr	0.021600	0.000000	No
			V	-0.003422	0.000000	No
			Zn	-0.000115	0.000000	No
			Mo	0.000889	0.000000	No
			Ti	0.000030	0.000000	No
			Sn	-0.010224	0.000000	No
			Mg	-0.000003	0.000000	No
			Zr	-0.000463	0.000000	No
			Sr	0.000031	0.000000	No
			B	-0.000100	0.000000	No
			Co	-0.000251	0.000000	No
			W	0.000000	0.000000	No
			Si	0.000130	0.000000	No
Al 396.152 { 85}	☒	5	Si	0.000652	0.000000	No
			Ca	0.000018	0.000000	No
			Mo	0.043916	0.000000	No
			Zr	0.005268	0.000000	No
			Ti	-0.000583	0.000000	No
Ca 317.933 {106}	☒	14	Fe	0.000012	0.000000	No
			W	0.003960	0.000000	No
			Tl	-0.000152	0.000000	No
			Be	0.001840	0.000000	No
			Ba	-0.001224	0.000000	No
			Cu	-0.000822	0.000000	No
			Cd	-0.007593	0.000000	No
			Ni	0.000667	0.000000	No
			B	-0.000210	0.000000	No
			Se	0.000923	0.000000	No
			Co	-0.000408	0.000000	No
			Cr	0.000640	0.000000	No
			Al	-0.000000	0.000000	No
			As	0.010000	0.000000	No
Fe 259.940 {130}	☒	10	Si	0.000819	0.000000	No
			Tl	-0.000051	0.000000	No
			Cr	0.000310	0.000000	No
			Mn	-0.000196	0.000000	No
			V	-0.000064	0.000000	No
			Cu	-0.000015	0.000000	No
			Zn	0.000046	0.000000	No
			Ti	-0.000631	0.000000	No
			Ca	0.000020	0.000000	No
			Ba	0.001000	0.000000	No
Mg 279.079 {121}	☒	3	Mo	-0.013702	0.000000	No
			W	-0.006578	0.000000	No
			Mn	-0.002445	0.000000	No
K 766.490 { 44}	☒	11	Fe	-0.000440	0.000000	No
			Al	0.000077	0.000000	No
			Ca	-0.000121	0.000000	No
			Mn	-0.007074	0.000000	No
			Si	-0.003000	0.000000	No
			V	-0.002000	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Sn	-0.004700	0.000000	No
			Ba	-0.010574	0.000000	No
			Mo	-0.000850	0.000000	No
			Cu	-0.011483	0.000000	No
			Ni	-0.010000	0.000000	No
Na 589.592 { 57}	☒	4	K	-0.000560	0.000000	No
			Ba	0.000900	0.000000	No
			Ca	0.000180	0.000000	No
			V	-0.005000	0.000000	No
B 208.959 {462}	☒	1	Mo	0.038137	0.000000	No
Mo 202.030 {467}	☒	2	Al	-0.000004	0.000000	No
			Fe	-0.000010	0.000000	No
Si 212.412 {459}	☒	12	Sr	0.000366	0.000000	No
			Ni	0.002092	0.000000	No
			Mo	0.034932	0.000000	No
			V	0.036950	0.000000	No
			Ti	0.004593	0.000000	No
			Al	-0.000010	0.000000	No
			Cd	0.001043	0.000000	No
			Ba	0.001987	0.000000	No
			Sn	0.007500	0.000000	No
			Zn	0.000385	0.000000	No
			Be	-0.000048	0.000000	No
			W	0.000000	0.000000	No
Sn 189.989 {478}	☒	4	Ti	-0.001964	0.000000	No
			Fe	0.000004	0.000000	No
			Si	0.000131	0.000000	No
			Zr	0.000908	0.000000	No
Sr 407.771 { 83}	☒	2	Ca	0.000018	0.000000	No
			Si	0.000033	0.000000	No
Ti 334.904 {101}	☒	3	Cr	0.000189	0.000000	No
			Mo	0.001351	0.000000	No
			Si	0.000035	0.000000	No
Y 360.073 { 94}*	☒	None				
Y 371.030 { 91}*	☒	None				
Y 224.306 {451}*	☒	None				
In 230.606 {446}*	☒	None				
W 207.911 {462}	☒	20	Si	0.000105	0.000000	No
			As	0.000100	0.000000	No
			Mn	0.000066	0.000000	No
			Mo	-0.000300	0.000000	No
			Ti	0.000080	0.000000	No
			Sr	-0.000850	0.000000	No
			V	-0.000140	0.000000	No
			Cd	-0.000650	0.000000	No
			Cr	-0.000390	0.000000	No
			Zn	0.013026	0.000000	No
			Sn	0.001300	0.000000	No
			Zr	0.000061	0.000000	No
			B	0.000009	0.000000	No
			Sb	-0.000300	0.000000	No
			Co	-0.001000	0.000000	No
			Ni	-0.003000	0.000000	No
			Be	-0.000185	0.000000	No
			Se	-0.000105	0.000000	No
			Cu	-0.000138	0.000000	No
			Tl	-0.000220	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
	Zr 339.198 { 99}	☒	6	Mo	0.001069	0.000000	No
				Ti	0.000203	0.000000	No
				Fe	-0.000070	0.000000	No
				Si	0.000074	0.000000	No
				S	-0.000002	0.000000	No
				Cr	-0.000700	0.000000	No
	S 182.034 {485}	☒	7	Mo	-0.004201	0.000000	No
				Al	-0.000034	0.000000	No
				Fe	0.000002	0.000000	No
				Mn	0.004620	0.000000	No
				W	-0.032564	0.000000	No
				Ca	0.000032	0.000000	No
				Mg	0.000005	0.000000	No
	Bi 223.061 {451}	☒	9	Ti	-0.072020	0.000000	No
				V	-0.000704	0.000000	No
				Co	-0.002380	0.000000	No
				Ca	-0.000002	0.000000	No
				Mg	-0.000000	0.000000	No
				Fe	0.000187	0.000000	No
				Cr	0.001595	0.000000	No
				Cu	-0.001148	0.000000	No
				W	-0.020000	0.000000	No
	Li 670.784 { 50}	☒	2	Ca	0.000023	0.000000	No
				Fe	0.000081	0.000000	No
	P 177.495 {490}	☒	9	Mn	-0.006184	0.000000	No
				Al	-0.000060	0.000000	No
				V	-0.001953	0.000000	No
				Si	-0.001622	0.000000	No
				Ti	0.000000	-0.001185	No
				Mo	-0.001880	0.000000	No
				S	-0.000189	0.000000	No
				Co	-0.002198	0.000000	No
				Cu	-0.023500	0.000000	No

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
	Ba 455.403 { 74}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.012432	1.814962	0.000000	1.000000
	Be 313.042 {108}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000944	3.059642	0.000000	1.000000
	Cd 228.802 {448}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000481	1.149045	0.000000	1.000000
	Co 228.616 {448}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000092	0.733666	0.000000	1.000000
	Cr 267.716 {126}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000099	0.166595	0.000000	1.000000
	Cu 324.754 {104}2	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.002813	0.273053	0.000000	1.000000
	Mn 257.610 {131}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000072	0.901373	0.000000	1.000000
	Ni 231.604 {446}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000100	0.605564	0.000000	1.000000
	Ag 328.068 {103}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000351	0.154258	0.000000	1.000000
	V 292.402 {115}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000403	0.229186	0.000000	1.000000
	Zn 206.200 {464}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000515	1.716987	0.000000	1.000000
	As 189.042 {478}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000153	0.122896	0.000000	1.000000
	Tl 190.856 {477}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000210	0.078893	0.000000	1.000000
	Pb 220.353 {453}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000454	0.268092	0.000000	1.000000
	Se 196.090 {472}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000063	0.095689	0.000000	1.000000
	Sb 206.833 {463}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000855	0.158232	0.000000	1.000000
	Al 396.152 { 85}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000349	0.043928	0.000000	1.000000
	Ca 317.933 {106}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.008492	0.109162	0.000000	1.000000
	Fe 259.940 {130}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000127	0.068075	0.000000	1.000000
	Mg 279.079 {121}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000047	0.012097	0.000000	1.000000
	K 766.490 { 44}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.001934	0.021100	0.000000	1.000000
	Na 589.592 { 57}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.010300	0.078400	0.000000	1.000000
	B 208.959 {462}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000796	0.245992	0.000000	1.000000
	Mo 202.030 {467}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000452	0.754233	0.000000	1.000000
	Si 212.412 {459}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.002876	0.208891	0.000000	1.000000
	Sn 189.989 {478}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000323	0.227030	0.000000	1.000000
	Sr 407.771 { 83}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.001315	3.403568	0.000000	1.000000
	Ti 334.904 {101}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000130	0.181142	0.000000	1.000000
	Y 360.073 { 94}*	4/23/2019 8:27:22	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 371.030 { 91}*	4/23/2019 8:27:22	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 224.306 {451}*	4/23/2019 8:27:22	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	In 230.606 {446}*	4/23/2019 8:27:22	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	W 207.911 {462}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000731	0.391768	0.000000	1.000000
	Zr 339.198 { 99}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000520	0.500687	0.000000	1.000000
	S 182.034 {485}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	0.000284	0.050831	0.000000	1.000000
	Bi 223.061 {451}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.000332	0.188485	0.000000	1.000000
	Li 670.784 { 50}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	None	-0.003716	0.455766	0.000000	1.000000
	P 177.495 {490}	4/23/2019 8:27:22	4/22/2019 10:47:19	Linear	1/Conc	-0.004497	0.033687	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ba 455.403 { 74}	1.000000	0.000000	0.000276	0.000921	OK.	1.000000	0.000000	1	0
Be 313.042 {108}	1.000000	0.000000	0.000065	0.000216	OK.	1.000000	0.000000	1	0
Cd 228.802 {448}	1.000000	0.000000	0.000197	0.000656	OK.	1.000000	0.000000	1	0
Co 228.616 {448}	1.000000	0.000000	0.000241	0.000804	OK.	1.000000	0.000000	1	0
Cr 267.716 {126}	1.000000	0.000000	0.000316	0.001054	OK.	1.000000	0.000000	1	0
Cu 324.754 {104}2	1.000000	0.000000	0.000439	0.001462	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	1.000000	0.000000	0.000052	0.000173	OK.	1.000000	0.000000	1	0
Ni 231.604 {446}	1.000000	0.000000	0.000335	0.001117	OK.	1.000000	0.000000	1	0
Ag 328.068 {103}	1.000000	0.000000	0.000509	0.001697	OK.	1.000000	0.000000	1	0
V 292.402 {115}	1.000000	0.000000	0.000386	0.001286	OK.	1.000000	0.000000	1	0
Zn 206.200 {464}	1.000000	0.000000	0.000109	0.000364	OK.	1.000000	0.000000	1	0
As 189.042 {478}	1.000000	0.000000	0.001213	0.004042	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	1.000000	0.000000	0.001373	0.004577	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	1.000000	0.000000	0.001065	0.003550	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	1.000000	0.000000	0.002010	0.006698	OK.	1.000000	0.000000	1	0
Sb 206.833 {463}	1.000000	0.000000	0.001571	0.005237	OK.	1.000000	0.000000	1	0
Al 396.152 { 85}	1.000000	0.000000	0.009658	0.032193	OK.	1.000000	0.000000	1	0
Ca 317.933 {106}	1.000000	0.000000	0.002249	0.007496	OK.	1.000000	0.000000	1	0
Fe 259.940 {130}	1.000000	0.000000	0.001845	0.006149	OK.	1.000000	0.000000	1	0
Mg 279.079 {121}	1.000000	0.000000	0.013071	0.043570	OK.	1.000000	0.000000	1	0
K 766.490 { 44}	1.000000	0.000000	0.034914	0.116381	OK.	1.000000	0.000000	1	0
Na 589.592 { 57}	1.000000	0.000000	0.009991	0.033305	OK.	1.000000	0.000000	1	0
B 208.959 {462}	1.000000	0.000000	0.000699	0.002329	OK.	1.000000	0.000000	1	0
Mo 202.030 {467}	1.000000	0.000000	0.000285	0.000949	OK.	1.000000	0.000000	1	0
Si 212.412 {459}	1.000000	0.000000	0.001185	0.003950	OK.	1.000000	0.000000	1	0
Sn 189.989 {478}	1.000000	0.000000	0.000611	0.002038	OK.	1.000000	0.000000	1	0
Sr 407.771 { 83}	1.000000	0.000000	0.000102	0.000340	OK.	1.000000	0.000000	1	0
Ti 334.904 {101}	1.000000	0.000000	0.000384	0.001281	OK.	1.000000	0.000000	1	0
Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 { 91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 224.306 {451}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
W 207.911 {462}	1.000000	0.000000	0.001093	0.003644	OK.	1.000000	0.000000	1	0
Zr 339.198 { 99}	1.000000	0.000000	0.000198	0.000659	OK.	1.000000	0.000000	1	0
S 182.034 {485}	1.000000	0.000000	0.002495	0.008317	OK.	1.000000	0.000000	1	0
Bi 223.061 {451}	1.000000	0.000000	0.001773	0.005909	OK.	1.000000	0.000000	1	0
Li 670.784 { 50}	1.000000	0.000000	0.001739	0.005796	OK.	1.000000	0.000000	1	0
P 177.495 {490}	1.000000	0.000000	0.003219	0.010729	OK.	1.000000	0.000000	1	0

SGS North America Inc.

Accutest Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP14334	4/18/2019	9:35	4/18/2019	13:10	JC86402-9A	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	5	158274	94	0	94
1	End	5	158274	94	0	94
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	SW846 3010A	Digestion Block		M-74	1812114	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP14334-MB1	N/A	N	50	50	AB		
MP14334-B1	N/A	N	50	50	AB	ABCD	
MP14334-S1	1	Y	50	50	AB	ABCD	
MP14334-S2	1	Y	50	50	AB	ABCD	
MP14334-SD1	1	Y	50	50	AB		
JC86390-1	1	Y	50	50	AB		
JC86402-1	1	Y	50	50	AB		
JC86402-10A	1	Y	50	50	AB		
JC86402-11	1	Y	50	50	AB		
JC86402-12	1	Y	50	50	AB		
JC86402-13A	1	Y	50	50	AB		
JC86402-14	1	Y	10	50	AB		BROWN SEDIMENT
JC86402-15	1	Y	5	50	AB		MUDDY
JC86402-16A	1	Y	50	50	AB		
JC86402-17	1	Y	50	50	AB		
JC86402-2	1	Y	10	50	AB		DARK SEDIMENT
JC86402-5A	1	Y	50	50	AB		
JC86402-8A	1	Y	10	50	AB		DARK SEDIMENT
JC86402-9A	1	Y	50	50	AB		
JC86512-10	1	Y	50	50	AB		
JC86512-8	1	Y	50	50	AB		
MP14334-B2	N/A	N	50	50	AB		

Reagents Groups

Group	Description	MLs Used
A	CONC HNO3	3
B	1:1 HCL	5
C		
D		
E		
F		
G		
H		

Spike Groups

Group	Description	MLs Used
A	ACCUTEST 13A REV1	0.5
B	ACCUTEST 14A REV1	0.5
C	MINERALS 5000PPM	0.25
D	AG 20PPM	0.625
E		
F	AG 20PPM	0.625
G		
H		

Comments:

Analyst TAYLORG **Approved by** gulcagt **Approved on** 4/19/2019

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

SGS North America Inc.

Accutest Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP14334	4/18/2019	9:35	4/18/2019	13:10	JC86402-9A	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	5	158274	94	0	94
1	End	5	158274	94	0	94
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	SW846 3010A	Digestion Block		M-74	1812114	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP14334-MB1	N/A	N	50	50	AB		
MP14334-B1	N/A	N	50	50	AB	ABCD	
MP14334-S1	1	Y	50	50	AB	ABCD	
MP14334-S2	1	Y	50	50	AB	ABCD	
MP14334-SD1	1	Y	50	50	AB		
JC86390-1	1	Y	50	50	AB		
JC86402-1	1	Y	50	50	AB		
JC86402-10A	1	Y	50	50	AB		
JC86402-11	1	Y	50	50	AB		
JC86402-12	1	Y	50	50	AB		
JC86402-13A	1	Y	50	50	AB		
JC86402-14	1	Y	10	50	AB		BROWN SEDIMENT
JC86402-15	1	Y	5	50	AB		MUDDY
JC86402-16A	1	Y	50	50	AB		
JC86402-17	1	Y	50	50	AB		
JC86402-2	1	Y	10	50	AB		DARK SEDIMENT
JC86402-5A	1	Y	50	50	AB		
JC86402-8A	1	Y	10	50	AB		DARK SEDIMENT
JC86402-9A	1	Y	50	50	AB		
JC86512-10	1	Y	50	50	AB		
JC86512-8	1	Y	50	50	AB		
MP14334-B2	N/A	N	50	50	AB	ABCD	

Reagents Groups

Group	Description	MLs Used
A	CONC HNO3	3
B	1 1 HCL	5
C		
D		
E		
F		
G		
H		

Spike Groups

Group	Description	MLs Used
A	ACCUTEST 13A REV1	0 5
B	ACCUTEST 14A REV1	0 5
C	MINERALS 5000PPM	0 25
D	AG 20PPM	0 625
E		
F	AG 20PPM	0 625
G		
H		

Comments: _____

Analyst TAYLORG Approved by _____ Approved on _____

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

SGS

Metals Digestion Reagents Information Log

Digestion Batch ID: MP 14334 **Date:** 4/18/19

Matrix: ALL

Standard/Reagent Type	Exp. Date	Standard/Reagent ID
Spiking Solution - (ACCUTEST-13A REV1)	10/4/2019	MP-015-1153
Spiking Solution - (ACCUTEST-14A REV1)	10/4/2019	MP-015-1154
Spiking Solution - 5000 mg/l Minerals	2/15/2020	N2-MEB674932 MFG: INO. VENT.
Spiking Solution - Sulfur 1000ppm	4/11/2021	LOT: 041118 MFG: ABS. GRADE
Spiking Solution - Si 1000ppm	10/31/2019	N2-SI668066 MFG: INO. VENT.
Spiking Solution - Bi 1000ppm	1/16/2020	N2-BI669548 MFG: INO. VENT.
Spiking Solution - Se 20ppm	10/10/2019	MP-015-1156
Spiking Solution - Li 1000ppm	1/24/2020	N2-LI665824 MFG: INO. VENT.
Spiking Solution- Ag 20 ppm	10/16/2019	MP-015-1158
Spiking Solution - (ACCUTEST-13B REV1)	10/10/2019	MP-015-1157
Spiking Solution - (ACCUTEST-14B REV1)	7/3/2019	MP-015-1126
Spiking Solution - 1000ppm Minerals	6/4/2019	MP-015-1117
Spiking Solution- P		
Nitric Acid	4/17/2021	LOT: 213500 MFG: J.T. BAKER
Nitric Acid (1:1)	10/15/2019	MP-018-42-180 1:1 HNO3
Hydrochloric Acid	4/17/2021	LOT: 217157 MFG: J.T. BAKER
Hydrochloric Acid (1:1)	10/16/2019	MP-018-42-181 1:1 HCL
Hydrogen Peroxide	4/11/2021	LOT: 188006 MFG: FISHER
Soil Lab Control/Soil LC	3/31/2020	LOT: D094-540 MFG: ERA
Teflon Chips(For Soil MB and Blank Spike)	N/A	LOT: 24242815 MFG: SAINT-GOBAIN
Digestion Tubes	N/A	LOT: 1812114 MFG: ENV. EXPRESS
pH Paper	6/15/2021	LOT: 217518 MFG: HYDRION
Filter paper Q8	N/A	LOT: 16917460 MFG: FISHER
Filter paper 0.45µm	N/A	LOT: F8MA26136E MFG: FISHER

Spike witnessed By: BP

Validated By:

Validated On:

Metals Prep Reagent
1/17/18

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN94404			mg/l	250	262	104.8	90-110%
Alkalinity, Total as CaCO3	GN94404	5.0	0.0	mg/l	50	51.3	102.6	90-110%
Chloride	GP20737/GN94318	2.0	0.0	mg/l	80	80.4	100.5	90-110%
Iron, Ferrous	GN94257	0.20	0.0	mg/l	3.0	2.9	96.7	85-115%
Nitrogen, Nitrate + Nitrite	GP20729/GN94330	0.10	0.0	mg/l	2	2.02	101.0	90-110%
Nitrogen, Nitrite	GN94249	0.010	0.0	mg/l	0.04	0.041	102.5	90-110%
Sulfate	GP20737/GN94318	2.0	0.0	mg/l	80	80.4	100.5	90-110%
Sulfide	GN94263	2.0	0.0	mg/l	9.76	9.6	98.4	80-120%
Sulfide	GN94263			mg/l	4.88	4.9	100.4	80-120%
Surfactants, MBAS as LAS	GN94223			mg/l	0.5	0.50	100.0	90-110%
Surfactants, MBAS as LAS	GN94223			mg/l	0.5	0.50	100.0	90-110%
Surfactants, MBAS as LAS	GN94223			mg/l	0.5	0.49	98.0	90-110%
Surfactants, MBAS as LAS	GN94223			mg/l	0.5	0.49	98.0	90-110%
Surfactants, MBAS as LAS	GN94223	0.10	0.0	mg/l	0.5	0.50	100.0	90-110%
Total Organic Carbon	GP20738/GN94326	1.0	0.0	mg/l	10	9.83	98.3	90-110%
Total Residual Chlorine	GN94251	0.10	0.0	mg/l	1.0	0.99	99.0	90-110%

Associated Samples:
Batch GN94223: JC86512-8, JC86512-10
Batch GN94249: JC86512-8, JC86512-10
Batch GN94251: JC86512-8, JC86512-10
Batch GN94257: JC86512-8, JC86512-10
Batch GN94263: JC86512-8, JC86512-10
Batch GN94404: JC86512-8, JC86512-10
Batch GP20729: JC86512-8, JC86512-10
Batch GP20737: JC86512-8, JC86512-10
Batch GP20738: JC86512-8, JC86512-10
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN94404	JC86325-1	mg/l	104	105	1.0	0-10%
Chloride	GP20737/GN94318	JC86512-8	mg/l	38.6	38.8	0.5	0-20%
Iron, Ferrous	GN94257	JC86512-8	mg/l	0.0	0.0	0.0	0-28%
Nitrogen, Nitrate + Nitrite	GP20729/GN94330	JC86521-4	mg/l	7.9	7.8	1.3	0-33%
Nitrogen, Nitrite	GN94249	JC86511-2	mg/l	0.0	0.0	0.0	0-11%
Sulfate	GP20737/GN94318	JC86512-8	mg/l	62.9	63.1	0.3	0-20%
Sulfide	GN94263	JC86512-8	mg/l	0.0	0.0	0.0	0-12%
Surfactants, MBAS as LAS	GN94223	JC86512-8	mg/l	0.0	0.0	0.0	0-25%
Total Residual Chlorine	GN94251	JC86426-1	mg/l	0.0	0.0	0.0	0-49%

Associated Samples:
Batch GN94223: JC86512-8, JC86512-10
Batch GN94249: JC86512-8, JC86512-10
Batch GN94251: JC86512-8, JC86512-10
Batch GN94257: JC86512-8, JC86512-10
Batch GN94263: JC86512-8, JC86512-10
Batch GN94404: JC86512-8, JC86512-10
Batch GP20729: JC86512-8, JC86512-10
Batch GP20737: JC86512-8, JC86512-10
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP20737/GN94318	JC86512-8	mg/l	38.6	80	116	96.8	80-120%
Chloride	GP20737/GN94318	JC86512-10	mg/l	198	80	272	92.5	80-120%
Iron, Ferrous	GN94257	JC86512-8	mg/l	0.0	3.0	3.2	106.7	92-113%
Nitrogen, Nitrate + Nitrite	GP20729/GN94330	JC86521-4	mg/l	7.9	1	8.8	90.0	90-110%
Nitrogen, Nitrite	GN94249	JC86511-2	mg/l	0.0	0.04	0.037	92.5	22-140%
Sulfate	GP20737/GN94318	JC86512-8	mg/l	62.9	80	140	96.4	80-120%
Sulfate	GP20737/GN94318	JC86512-10	mg/l	15.9	80	97.0	101.4	80-120%
Sulfide	GN94263	JC86426-1	mg/l	0.0	3.31	2.8	84.6	37-135%
Surfactants, MBAS as LAS	GN94223	JC86512-8	mg/l	0.0	0.5	0.52	104.0	75-125%
Total Organic Carbon	GP20738/GN94326	JC86461-2	mg/l	3.7	10	14.4	107.0	71-132%

Associated Samples:
Batch GN94223: JC86512-8, JC86512-10
Batch GN94249: JC86512-8, JC86512-10
Batch GN94257: JC86512-8, JC86512-10
Batch GN94263: JC86512-8, JC86512-10
Batch GP20729: JC86512-8, JC86512-10
Batch GP20737: JC86512-8, JC86512-10
Batch GP20738: JC86512-8, JC86512-10
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Iron, Ferrous	GN94257	JC86512-8	mg/l	0.0	3.0	3.3	3.1	20%
Total Organic Carbon	GP20738/GN94326	JC86461-2	mg/l	3.7	10	14.3	0.7	10%

Associated Samples:
Batch GN94257: JC86512-8, JC86512-10
Batch GP20738: JC86512-8, JC86512-10
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: 219041901.TXT Date Analyzed: 04/19/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN94318
Parameters: Chloride,Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:39	GN94318-STD1	1		Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044.
17:03	GN94318-STD2	1		RT: F=3.182 min Chl=4.646 min So4=6.557 min
17:27	GN94318-STD3	1		STDC
17:50	GN94318-STD4	1		STDCD
18:14	GN94318-STD5	1		STDD
18:38	GN94318-STD6	1		STDDE
19:02	GN94318-STD7	1		STDE
19:26	GN94318-STD8	1		STDF
19:50	GN94318-STD9	1		STDG
09:49	GN94318-ICV1	1		
10:13	GN94318-CCV1	1		
10:37	GN94318-CCB1	1		
11:01	GP20697-MB1	1		
11:25	GP20697-B1	1		
12:01	ZZZZZZ	3		
12:25	ZZZZZZ	3		
12:49	GP20698-MB2	1		
12:49	GP20737-MB1	1		
13:13	GP20698-B2	1		
13:13	GP20737-B1	1		
13:37	GP20698-S1	2		
14:01	ZZZZZZ	10		
14:25	ZZZZZZ	1		
14:48	GP20737-S1	1		
15:12	GN94318-CCV2	1		
15:36	GN94318-CCB2	1		
16:00	GP20737-D1	1		
16:24	JC86512-8	1		
16:48	GP20737-S2	1		
17:12	JC86512-10	1		
17:36	ZZZZZZ	1		
18:00	ZZZZZZ	1		
18:24	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: 219041901.TXT Date Analyzed: 04/19/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN94318
Parameters: Chloride,Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:48	ZZZZZZ	1		
19:12	ZZZZZZ	1		
19:36	ZZZZZZ	1		
20:00	GN94318-CCV3	1		
20:23	GN94318-CCB3	1		
20:47	ZZZZZZ	1		
21:11	ZZZZZZ	1		
21:35	ZZZZZZ	1		
21:59	ZZZZZZ	1		
22:23	ZZZZZZ	1		
22:47	ZZZZZZ	1		
23:11	ZZZZZZ	1		
23:35	ZZZZZZ	1		
23:59	ZZZZZZ	1		
00:23	ZZZZZZ	2		
00:47	GN94318-CCV4	1		
01:11	GN94318-CCB4	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: 219041901.TXT Date Analyzed: 04/19/19 Methods: EPA 300/SW846 9056A
Run ID: GN94318 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN94318-ICV1	Chloride	102	2.0	0.16	100	102.0	90-110
GN94318-ICV1	Sulfate	104	2.0	0.38	100	104.0	90-110
GN94318-CCV1	Chloride	198	2.0	0.16	200	99.0	90-110
GN94318-CCV1	Sulfate	199	2.0	0.38	200	99.5	90-110
GN94318-CCB1	Chloride	0.16 U	2.0	0.16			
GN94318-CCB1	Sulfate	0.38 U	2.0	0.38			
GN94318-CCV2	Chloride	198	2.0	0.16	200	99.0	90-110
GN94318-CCV2	Sulfate	199	2.0	0.38	200	99.5	90-110
GN94318-CCB2	Chloride	0.16 U	2.0	0.16			
GN94318-CCB2	Sulfate	0.38 U	2.0	0.38			
GN94318-CCV3	Chloride	198	2.0	0.16	200	99.0	90-110
GN94318-CCV3	Sulfate	199	2.0	0.38	200	99.5	90-110
GN94318-CCB3	Chloride	0.16 U	2.0	0.16			
GN94318-CCB3	Sulfate	0.38 U	2.0	0.38			
GN94318-CCV4	Chloride	198	2.0	0.16	200	99.0	90-110
GN94318-CCV4	Sulfate	200	2.0	0.38	200	100.0	90-110
GN94318-CCB4	Chloride	0.16 U	2.0	0.16			
GN94318-CCB4	Sulfate	0.38 U	2.0	0.38			

(!) Outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E90419W1.TXT Date Analyzed: 04/19/19 Methods: SM5310 B-11
Analyst: CD Run ID: GN94326
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:03	GN94326-STD1	1		STDA
13:17	GN94326-STD2	1		STDB
13:28	GN94326-STD3	1		STDC
13:42	GN94326-STD4	1		STDD
13:54	GN94326-STD5	1		STDE
14:06	GN94326-STD6	1		STDF
14:18	GN94326-STD7	1		STDG
14:31	GN94326-STD8	1		STDH
10:21	ZZZZZZ	1		
10:32	GN94326-CRI1	1		
10:44	GN94326-HSTD1	1		
10:55	GN94326-ICV1	1		
11:05	GN94326-ICB1	1		
11:17	GN94326-CCV1	1		
11:28	GN94326-CCB1	1		
11:39	ZZZZZZ	1		
11:50	GP20738-MB1	1		
12:02	GP20738-B1	1		
14:15	ZZZZZZ	1		
14:27	JC86461-2	1		(sample used for QC only; not part of login JC86512)
14:38	GP20738-S1	1		
14:49	GP20738-MSD1	1		
15:00	ZZZZZZ	1		
15:11	ZZZZZZ	1		
15:22	ZZZZZZ	1		
15:34	GN94326-CCVA1	1		
15:44	GN94326-CCB2	1		
15:56	ZZZZZZ	1		
16:09	ZZZZZZ	1		
16:18	JC86512-8	1		
16:31	JC86512-10	1		
16:40	ZZZZZZ	1		
16:51	GP20739-MB1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E90419W1.TXT Date Analyzed: 04/19/19 Methods: SM5310 B-11
Analyst: CD Run ID: GN94326
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:03	GP20739-B1	1		
17:14	JC86156-1	1		(sample used for QC only; not part of login JC86512)
17:25	GP20739-S1	1		
17:37	GP20739-MSD1	1		
17:48	GN94326-CCV2	1		
18:07	GN94326-CCB3	1		
18:18	ZZZZZZ	1		
18:30	ZZZZZZ	1		
18:41	ZZZZZZ	1		
18:52	ZZZZZZ	1		
19:04	ZZZZZZ	1		
19:15	ZZZZZZ	1		
19:26	ZZZZZZ	1		
19:37	ZZZZZZ	1		
19:50	GP20740-MB1	1		
19:59	GP20740-B1	1		
20:11	GN94326-CCVA2	1		
20:23	GN94326-CCB4	1		
20:32	ZZZZZZ	1		
20:44	ZZZZZZ	1		
20:57	ZZZZZZ	1		
21:06	ZZZZZZ	1		
21:17	ZZZZZZ	1		
21:29	JC86344-6	1		(sample used for QC only; not part of login JC86512)
21:40	GP20740-S1	1		
21:51	GP20740-MSD1	1		
22:02	ZZZZZZ	1		
22:13	ZZZZZZ	1		
22:25	GN94326-CCV3	1		
22:51	GN94326-CCB5	1		
22:59	ZZZZZZ	1		
23:13	ZZZZZZ	1		
23:21	GP20741-MB1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E90419W1.TXT Date Analyzed: 04/19/19 Methods: SM5310 B-11
Analyst: CD Run ID: GN94326
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
23:33	GP20741-B1	1		
23:44	ZZZZZZ	1		
23:55	ZZZZZZ	1		
00:06	JC86461-5	1		(sample used for QC only; not part of login JC86512)
00:18	GP20741-S1	1		
00:29	GP20741-MSD1	1		
00:40	ZZZZZZ	1		
00:52	GN94326-CCVA3	1		
01:04	GN94326-CCB6	1		
01:13	ZZZZZZ	1		
01:25	ZZZZZZ	1		
01:36	ZZZZZZ	1		
01:47	ZZZZZZ	1		
01:59	GN94326-CCV4	1		
02:20	GN94326-CCB7	1		
02:29	ZZZZZZ	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E90419W1.TXT Date Analyzed: 04/19/19 Methods: SM5310 B-11
Run ID: GN94326 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN94326-CRI1	Total Organic Carbon	1.03	1.0	0.72	1	103.0	70-130
GN94326-HSTD1	Total Organic Carbon	47.7	1.0	0.72	50	95.4	90-110
GN94326-ICV1	Total Organic Carbon	18.9	1.0	0.72	20	94.5	90-110
GN94326-ICB1	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCV1	Total Organic Carbon	23.5	1.0	0.72	25	94.0	90-110
GN94326-CCB1	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCVA1	Total Organic Carbon	47.9	1.0	0.72	50	95.8	
GN94326-CCB2	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCV2	Total Organic Carbon	23.4	1.0	0.72	25	93.6	90-110
GN94326-CCB3	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCVA2	Total Organic Carbon	47.5	1.0	0.72	50	95.0	
GN94326-CCB4	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCV3	Total Organic Carbon	23.5	1.0	0.72	25	94.0	90-110
GN94326-CCB5	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCVA3	Total Organic Carbon	47.6	1.0	0.72	50	95.2	
GN94326-CCB6	Total Organic Carbon	0.72 U	1.0	0.72			
GN94326-CCV4	Total Organic Carbon	23.6	1.0	0.72	25	94.4	90-110
GN94326-CCB7	Total Organic Carbon	0.72 U	1.0	0.72			

(!) Outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E041919W1.NO32 Date Analyzed: 04/19/19 Methods: EPA 353.2/LACHAT
Analyst: KI Run ID: GN94330
Parameters: Nitrogen, Nitrate + Nitrite

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:08	GN94330-STD1	1		STDA
12:10	GN94330-STD2	1		STDB
12:11	GN94330-STD3	1		STDC
12:12	GN94330-STD4	1		STDD
12:13	GN94330-STD5	1		STDE
12:14	GN94330-STD6	1		STDF
12:15	GN94330-STD7	1		STDG
12:17	GN94330-ICV1	1		
12:19	GN94330-ICB1	1		
12:20	GN94330-CCV1	1		
12:21	GN94330-CCB1	1		
12:22	GP20728-MB1	1		
12:23	ZZZZZZ	1		
12:24	GP20729-MB1	1		
12:25	GP20729-B1	1		
12:26	GP20729-S1	1		Over calibration curve. See rerun at dilution.
12:28	GP20729-S2	1		
12:29	GP20729-D1	1		Over calibration curve. See rerun at dilution.
12:30	JC86521-4	1		(sample used for QC only; not part of login JC86512)
12:31	ZZZZZZ	1		
12:32	ZZZZZZ	1		
12:33	GN94330-CCV2	1		
12:34	GN94330-CCB2	1		
12:35	ZZZZZZ	1		
12:37	ZZZZZZ	1		
12:38	ZZZZZZ	1		
12:39	ZZZZZZ	1		
12:40	JC86397-7	1		(sample used for QC only; not part of login JC86512)
12:41	ZZZZZZ	1		
12:42	ZZZZZZ	1		
12:43	ZZZZZZ	1		
12:44	JC86512-8	1		
12:46	JC86512-10	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E041919W1.NO32 Date Analyzed: 04/19/19 Methods: EPA 353.2/LACHAT
Analyst: KI Run ID: GN94330
Parameters: Nitrogen, Nitrate + Nitrite

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:47	GN94330-CCV3	1		
12:48	GN94330-CCB3	1		
12:49	ZZZZZZ	1		
12:50	ZZZZZZ	1		
12:51	ZZZZZZ	1		
12:52	ZZZZZZ	1		
12:53	ZZZZZZ	1		
12:54	ZZZZZZ	1		
12:56	ZZZZZZ	1		
12:57	GP20731-MB1	1		
12:58	GP20731-B1	1		
12:59	GP20731-S1	1		
13:00	GN94330-CCV4	1		
13:01	GN94330-CCB4	1		
13:02	GP20731-S2	1		
13:03	GP20731-D1	1		
13:05	JC86616-9	1		(sample used for QC only; not part of login JC86512)
13:06	ZZZZZZ	1		
13:07	ZZZZZZ	1		
13:08	ZZZZZZ	1		
13:09	ZZZZZZ	1		
13:10	ZZZZZZ	1		
13:11	JC86461-5	1		(sample used for QC only; not part of login JC86512)
13:12	ZZZZZZ	1		
13:14	GN94330-CCV5	1		
13:15	GN94330-CCB5	1		
13:16	ZZZZZZ	1		
13:17	ZZZZZZ	1		
13:18	ZZZZZZ	1		
13:19	GP20729-S1	2		1:2 dilution
13:20	GP20729-S1	4		
13:21	GP20729-D1	2		1:2 dilution
13:23	GP20729-D1	4		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E041919W1.NO32 Date Analyzed: 04/19/19 Methods: EPA 353.2/LACHAT
Analyst: KI Run ID: GN94330
Parameters: Nitrogen, Nitrate + Nitrite

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:24	JC86521-4	2		(sample used for QC only; not part of login JC86512)
13:25	JC86521-4	4		(sample used for QC only; not part of login JC86512)
13:26	ZZZZZZ	3		
13:29	GN94330-CCV6	1		
13:30	GN94330-CCB6	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC86512
Account: GEIMAW - GEI Consultants, Inc.
Project: Tufts Street, Somerville, MA

File ID: E041919W1.NO32 Date Analyzed: 04/19/19 Methods: EPA 353.2/LACHAT
Run ID: GN94330 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN94330-ICV1	Nitrogen, Nitrate + Nitrite	2.08	0.10	0.090	2	104.0	90-110
GN94330-ICB1	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV1	Nitrogen, Nitrate + Nitrite	2.65	0.10	0.090	2.5	106.0	90-110
GN94330-CCB1	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV2	Nitrogen, Nitrate + Nitrite	2.66	0.10	0.090	2.5	106.4	90-110
GN94330-CCB2	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV3	Nitrogen, Nitrate + Nitrite	2.67	0.10	0.090	2.5	106.8	90-110
GN94330-CCB3	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV4	Nitrogen, Nitrate + Nitrite	2.67	0.10	0.090	2.5	106.8	90-110
GN94330-CCB4	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV5	Nitrogen, Nitrate + Nitrite	2.65	0.10	0.090	2.5	106.0	90-110
GN94330-CCB5	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN94330-CCV6	Nitrogen, Nitrate + Nitrite	2.66	0.10	0.090	2.5	106.4	90-110
GN94330-CCB6	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			

(!) Outside of QC limits

General Chemistry

Raw Data

SGS

Test: Anionic Surfactants as MBAS (Methylene Blue Active Substances) Analyst: JO/EB
Product: MBAS GN Batch ID: GN94223
Method: SM20 5540 C-11 (Aqueous) ● Units: mg/l GP Batch ID:
SM20 5540 C-11 Mod (Solids) ○ mg/kg Date: 4/17/2019
Instrument ID: J

Original Calibration Information Calibration Date: 1/31/2019

	Blank	Std 1	Std 2	Std 3	Std 4	Std 5		
Known:	0.000	0.100	0.500	1.000	1.500	2.000		
Absorbance:	0.000	0.016	0.101	0.190	0.314	0.422		
Actual Value:	0.029	0.104	0.506	0.926	1.512	2.022	NA	NA

Continuing Calibration Check Standards Data: 4/17/2019

	Blank	Std 1	Std 5
Known:	0.000	0.100	2.000
Absorbance:	0.000	0.014	0.390
	4/17/2019		
Recovery:	0.0%	94.9%	93.6%
Actual Value:	0.029	0.095	1.871

Correlation Coeff. = 0.99890
Slope = 4.72455
Intercept = 0.02872

Bottle #	Sample ID	Analysis Time	Initial Wt (g) or Vol (ml)	Final Vol (ml)	Dilution	Sample Abs	Background Abs.	Result from Curve (mg/L)	Final Result	DL	Units	Factor	Sulfide Check + Comments
	ICV	14:00	100	100	1	0.192	NA	0.936	0.936	NA	mg/l	NA	
	CCV		100	100	1	0.204	NA	0.993	0.993	NA	mg/l	NA	
	GN94223-MB1		100	100	1	0.000	0.000	0.029	0.029	0.100	mg/l	1	
	GN94223-B1		100	100	1	0.100	0.000	0.501	0.501	0.100	mg/l	1	
	GN94223-S1		100	100	1	0.105	0.000	0.525	0.525	0.100	mg/l	1	
	GN94223-D1		100	100	1	0.006	0.000	0.057	0.057	0.100	mg/l	1	
8	JC86512-8		100	100	1	0.005	0.000	0.052	0.052	0.100	mg/l	1	
7	JC86512-10		100	100	1	0.010	0.000	0.076	0.076	0.100	mg/l	1	
	JC85413-58		100	100	1	0.009	0.000	0.071	0.071	0.100	mg/l	1	
6	JC86514-1CON		100	100	1	1.055	0.000	5.013	5.013	0.100	mg/l	1	
	GN94223-BA		100	100	1	0.100	0.000	0.501	0.501	0.100	mg/l	1	
	GN94223-BB		100	100	1	0.098	0.000	0.492	0.492	0.100	mg/l	1	
	CCVA		100	100	1	0.390	0.000	1.871	1.871	NA	mg/l	NA	
	GN94223-BC		100	100	1	0.100	0.000	0.501	0.501	0.100	mg/l	1	
	GN94223-BD		100	100	1	0.097	0.000	0.487	0.487	0.100	mg/l	1	
6	JC86514-1CON		25	100	1	0.281	0.000	1.356	5.425	0.400	mg/l	4	
	CCV	20:45	100	100	1	0.204	NA	0.993	0.993	NA	mg/l	NA	

BSP = 5.0 ml of 10ppm LAS → 100ml final volume DI H_2O

Analyst: EB/JO Date: 4/17/19 QC Reviewer: _____ Date _____

SGS

Test: **Anionic Surfactants as MBAS (Methylene Blue Active Substances)**
Product: **MBAS**
Method: **SM18 5540C (waters) or SM18 5540C mod. (soils) [circle one]**
Units: mg/l or mg/kg

Analyst: JO/EB
GNBatch ID: GN94223
Date: 4/17/2019

Digestion Batch QC Summary Units = _____

Method Blank ID: GN94223-MB Date: 4/17/19 Result: <0.1 DL: 0.1 <DL: yes
Spike Blank ID: GN94223-BI Date: _____ Result: 0.501 Spike: 0.5 %Rec.: 100.2
Duplicate ID: GN94223-DI Samp. Result: <0.1 Dup. Result: <0.1 %RPD: 0
MS ID: GN94223-SI Samp. Result: <0.1 MS Result: 0.525 Spike: 0.5 %Rec: 105

Method Blank ID: _____ Date: _____ Result: _____ DL: _____ <DL: _____
Spike Blank ID: _____ Date: _____ Result: _____ Spike: _____ %Rec.: _____
Duplicate ID: _____ Samp. Result: _____ Dup. Result: _____ %RPD: _____
MS ID: _____ Samp. Result: _____ MS Result: _____ Spike: _____ %Rec: _____

Analysis Batch QC Summary Units = _____

ICV (Ext): 4/17/2019 Result: 0.936 TV: 1.0 %Rec: 93.6

CCV : _____ Result: 0.993 TV: 1.0 %Rec.: 99.3
CCVA : _____ Result: 1.871 TV: 2.0 %Rec.: 93.6
CCV : _____ Result: 0.993 TV: 1 %Rec.: 99.3
CCVA : _____ Result: _____ TV: _____ %Rec.: _____
CCV : _____ Result: _____ TV: _____ %Rec.: _____
CCVA : _____ Result: _____ TV: _____ %Rec.: _____

CCB: _____ Result: _____ DL: _____ <DL: _____
CCB: _____ Result: _____ DL: _____ <DL: _____
CCB: _____ Result: _____ DL: _____ <DL: _____
CCB: _____ Result: _____ DL: _____ <DL: _____
CCB: _____ Result: _____ DL: _____ <DL: _____
CCB: _____ Result: _____ DL: _____ <DL: _____

Reagent Reference Numbers:

Analyst: JO/EB Date: 4/17/19

Comments: _____

Form: GN030-01
Rev. Date:9/4/09

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG

Product: MBAS

GN or GP Number: GN94223

Intermediate Standard Description	Stock used to prepare standard	Stock concentration	Stock volume or weight used with units	Balance or Autopipet ID (*)	Diluent	Final Volume	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
10 PPM LAS STD	1000 ppm LAS	1000 ppm	1 mL	A	DI H20	100 mL	10 ppm	4/17/2019	JO	4/17/2019
	RICCA 1809B49									
	EXP SEP 2019									
10 PPM LAS ICV	1000 ppm LAS	1000 ppm	1mL	A	DI H20	100 mL	10 ppm	4/17/2019	JO	4/17/2019
RICCA 1811E85	EXP NOV 2019									
Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration	Intermediate or Stock volume used in ml	Balance or Autopipet ID (*)	Diluent	Final Volume	Final Conc. of Standard (mg/l)	Expiration Date	Analyst	Date
0 PPM	N/A	N/A	N/A	N/A	DI H20	100 mL	0	4/17/2019	JO	4/17/2019
0.1PPM	10 PPM LAS STOCK	10 ppm	1	A	DI H20	100 mL	0.1	4/17/2019	JO	4/17/2019
0.5PPM	10 PPM LAS STOCK	10 ppm	5	A	DI H20	100 mL	0.5			
1.00PPM	10 PPM LAS STOCK	10 ppm	10	A	DI H20	100 mL	1			
1.50PPM	10 PPM LAS STOCK	10 ppm	15	A	DI H20	100 mL	1.5			
2.00PPM	10 PPM LAS STOCK	10 ppm	20	A	DI H20	100 mL	2	4/17/2019	JO	4/17/2019
CCV	10 PPM LAS STOCK	10 ppm	10	A	DI H20	100 mL	1	4/17/2019	JO	4/17/2019
CCVA	10 PPM LAS STOCK	10 ppm	20	A	DI H20	100 mL	2	4/17/2019	JO	4/17/2019
ICV	10 PPM LAS STOCK	10 ppm	10	A	DI H20	100 mL	1	4/17/2019	JO	4/17/2019

* If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the appropriate Accutest ID number.

Form: GN121-01
Rev. Date: 1/13/09

SGS

Reagent Information Log - MBAS

GN94223

Reagent	Reagent # or Manufacturer/Lot
Stock LAS Solution, 1000 mg/L (STD)	RICCA 1809B49 XP: SEP 2019
Phenolphthalein Indicator Solution	GNE3-57676-MBAS XP: 9/30/2019
NaOH Solution, 1.0N	GNE2-57264-MBAS XP8/15/19
H_2SO_4 Solution 1.0N	GNE2-57265-MBAS XP8/15/19
Chloroform	FISHER 188791 XP: 3/30/2024
Methylene Blue intermediate	GNE2-57267-MBAS XP8/15/19
Wash Solution	GNE4-57794-MBAS XP10/17/2019
MBAS color	GNE2-57266-MBAS XP8/15/19
H2SO4 Solution 6.0N	GNE2-57269-MBAS XP8/15/19
Stock LAS Solution, 1000 mg/L (ICV)	RICCA 1811E85 XP:NOV 2019

All standards and stocks were made as described in the SOP for this method (circle one): Y or N
If no (N), see attached page for standards prep.

Form: GN087A-39
Rev. Date:4/17/2019

SGS

MDL Schedule Log

DAY 2

+ MB

Product: MBAS

Matrix: AQ

Instrument: SPEC J

Sample #: JC85413-58 MDL or (MDLVER) x 1

Concentration: 0.05 (mg/L) or mg/kg or _____

Prep: 0.5ml of 1000ppm LAS → 100ml DI H_2O

Sample #: _____ MDL or MDLVER x _____

Concentration: _____ mg/L or mg/kg or _____

Prep: _____

Date: 4/17/2019

Analyst: EB/JO

Batch #: GN94223

Form: GN278-04
Revised: 3/2/18

SGS

Test: Nitrogen, Nitrite
Product: NO2
Method: SM4500NO2 B-11 (Aqueous) ◉ Units: mg/l
SM4500NO2 B-11 M (Solids) ○ mg/kg

Analyst: JOHN
GN Batch ID: GN94249
GP Batch ID:
Date: 4/17/2019
Instrument ID: N

Original Calibration Information Calibration Date: 1/28/2019

	Blank	Std 1	Std 2	Std 3	Std 4	Std 5	Std 6	Std 7
Known:	0.000	0.010	0.025	0.050	0.075	0.100	0.200	
Absorbance:	0.001	0.038	0.090	0.174	0.267	0.353	0.699	
Actual Value:	0.000	0.010	0.025	0.049	0.076	0.100	0.200	

Continuing Calibration Check Standards Data:

	Blank	Std 1	Std 6
Known:	0.000	0.010	0.200
Absorbance:	0.000	0.039	0.714
Recovery:	0.0%	104.9%	102.0%
Actual Value:		0.010	0.204

Correlation Coeff. = 0.99997
Slope = 0.28658
Intercept = -0.00069

Bottle #	Sample ID	Time Analyzed	Initial Wt (g) or Vol (ml)	Final Vol (ml)	Dilution	Sample Abs	Background Abs.	Result From Curve (mg/L)	Final Result	DL	Units	Factor	pH between 5 and 9 (Y or N)
	ICV	21:15	50	50	1	0.335	NA	0.095	0.095	NA	mg/l	NA	Y
	CCV		50	50	1	0.336	NA	0.096	0.096	NA	mg/l	NA	Y
	GN94249-MB1		50	50	1	0.000	0.000	-0.001	-0.001	0.010	mg/l	1	Y
	GN94249-B1		50	50	1	0.144	0.000	0.041	0.041	0.010	mg/l	1	Y
*6	GN94249-S1		50	50	1	0.133	0.000	0.037	0.037	0.010	mg/l	1	Y
*6	GN94249-D1		50	50	1	0.002	0.000	0.000	0.000	0.010	mg/l	1	Y
6	JC86511-1		50	50	1	0.022	0.008	0.003	0.003	0.010	mg/l	1	Y
*6	JC86511-2		50	50	1	0.001	0.000	0.000	0.000	0.010	mg/l	1	Y
6	JC86511-3		50	50	1	0.008	0.003	0.001	0.001	0.010	mg/l	1	Y
6	JC86511-4		50	50	1	0.036	0.011	0.006	0.006	0.010	mg/l	1	Y
6	JC86511-5		50	50	1	0.001	0.000	0.000	0.000	0.010	mg/l	1	Y
6	JC86511-6		50	50	1	0.041	0.005	0.010	0.010	0.010	mg/l	1	Y
	CCVA	21:25	50	50	1	0.663	NA	0.189	0.189	NA	mg/l	NA	Y
6	JC86511-7		50	50	1	0.004	0.002	0.000	0.000	0.010	mg/l	1	Y
6	JC86511-8		50	50	1	0.024	0.009	0.004	0.004	0.010	mg/l	1	Y
6	JC86511-9		50	50	1	0.034	0.015	0.005	0.005	0.010	mg/l	1	Y
6	JC86511-10		50	50	1	0.002	0.001	0.000	0.000	0.010	mg/l	1	Y
6	JC86511-11		50	50	1	0.019	0.002	0.004	0.004	0.010	mg/l	1	Y
6	JC86511-12		50	50	1	0.040	0.021	0.005	0.005	0.010	mg/l	1	Y
3	JC86512-8		50	50	1	0.003	0.000	0.000	0.000	0.010	mg/l	1	Y
3	JC86512-10		50	50	1	0.005	0.000	0.001	0.001	0.010	mg/l	1	Y
3	JC86493-1		50	50	1	0.032	0.022	0.002	0.002	0.010	mg/l	1	Y
3	JC86493-2		50	50	1	0.005	0.000	0.001	0.001	0.010	mg/l	1	Y
	CCV	21:40	50	50	1	0.336	NA	0.096	0.096	NA	mg/l	NA	Y
3	JC86493-3		50	50	1	0.088	0.080	0.002	0.002	0.010	mg/l	1	Y
3	JC86493-4		50	50	1	0.131	0.077	0.015	0.015	0.010	mg/l		Y
7	JC86492-2CONF		50	50	1	OVR				0.010			Y
7	JC86492-2		50	50	5	0.428	0.000	0.122	0.610	0.050	mg/l		Y
			50	50	1								Y
			50	50	1								Y
			50	50	1								Y
			50	50	1								Y
			50	50	1								Y
			50	50	1								Y
	CCVA	21:50	50	50	1	0.688		0.196	0.196	NA	mg/l	NA	Y

QC: JC86511-2

Blk: 2ml of 1ppm & 50 ml Dilution

Analyst: JoHW Date: 4/17/19 QC Reviewer: _____ Date: _____

13.2
13

SGS

Test: **Nitrogen, Nitrite**
Product: **NO2**
Method: **SM18 4500 NO2B (aqueous)**
SM18 4500 NO2B M (solids)

Units: mg/l
mg/kg

Analyst: JohW
GNBatch ID: GN94249
GPBatch ID:
Date: 4/17/19

Preparation Batch QC Summary Units = _____

Method Blank ID: GN94249-MB1 Date: 4/17/19 Result: <DL DL: 0.01 <DL: Y
Spike Blank ID: -B1 Date: " Result: 0.041 Spike: 0.04 %Rec.: 102.5
Duplicate ID: -D1 Samp. Result: <DL Dup. Result: <DL %RPD: 0
MS ID: -S1 Samp. Result: <DL MS Result: 0.037 Spike: 0.04 %Rec: 92.5

Method Blank ID: _____ Date: _____ Result: _____ DL: _____ <DL: _____
Spike Blank ID: _____ Date: _____ Result: _____ Spike: _____ %Rec.: _____
Duplicate ID: _____ Samp. Result: _____ Dup. Result: _____ %RPD: _____
MS ID: _____ Samp. Result: _____ MS Result: _____ Spike: _____ %Rec: _____

Analysis Batch QC Summary Units = _____

ICV (Ext): 4/17/19 Result: .095 TV: 0.1 %Rec: 95

CCV : _____ Result: .096 TV: 0.1 %Rec.: 96
CCVA : _____ Result: .189 TV: 0.2 %Rec.: 94.5
CCV : _____ Result: 0.091 TV: 0.1 %Rec.: 91
CCVA : _____ Result: 0.196 TV: 0.2 %Rec.: 98
CCV : _____ Result: _____ TV: _____ %Rec.: _____
CCVA : _____ Result: _____ TV: _____ %Rec.: _____

CCB: _____ Result: _____ DL: _____ <DL: _____
CCB: _____ Result: _____ DL: _____ <DL: _____
CCB: _____ Result: _____ DL: _____ <DL: _____
CCB: _____ Result: _____ DL: _____ <DL: _____
CCB: _____ Result: _____ DL: _____ <DL: _____
CCB: _____ Result: _____ DL: _____ <DL: _____

Reagent Reference Numbers:

Analyst: JohW Date: 4/17/19

Comments: _____

Form: GN032-01
Rev. Date:9/4/09}

SGS GN941249

Reagent Information Log - Nitrite as Nitrogen

Reagent	Reagent # or Manufacturer/Lot
Calibration Source: 1000 mg/l nitrite stock	ERA LOT#190917 XP:9/30/2019
External Check	ERA LOT #020518 XP: 5/30/2020
Spiking Solution Source (1 PPM)	ERA LOT#190917 XP:9/30/2019
Color Reagent	GNE3-57628-NO2 XP:4/25/2019
NH4OH	FISHER 153331 XP:7/15/21

All standards and stocks were made as described in the SOP for this method (circle one): Y or N
If no (N), see attached page for standards prep.

Form: GN087A-42
Rev. Date:4/17/2019

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG

Product: NO2

GN or GP Number: GN94249

Intermediate Standard Description	Stock used to prepare standard	Stock concentration	Stock volume or weight used with units	Balance or Auto pipet ID (*)	Diluent	Final Volume	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
NO2 10 mg/L	ERA Lot 190917 Exp: 9/30/2019	1000 mg/L	1.0 ml	A	DI water	100 ml	10 mg/L	4/17/2019	JOHN	4/17/2019
NO2 1 mg/L	NO2 10 mg/L (STD)	100 mg/L	10.0 ml	A	DI water	100 ml	1 mg/L	4/17/2019	JOHN	4/17/2019
NO2 10 mg/L	ERA Lot 020518 Exp: 5/30/2020	1000 mg/L	1.0 ml	A	DI water	100 ml	10 mg/L	4/17/2019	JOHN	4/17/2019
NO2 1 mg/L	NO2 10 mg/L (ICV)	100 mg/L	10.0 ml	A	DI water	100 ml	1 mg/L	4/17/2019	JOHN	4/17/2019

Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration	Intermediate or Stock volume used in ml	Balance or Auto pipet ID (*)	Diluent	Final Volume	Final Conc. of Standard (mg/l)	Expiration Date	Analyst	Date
0.2 mg/L	1.0 mg/L	1.0 mg/L	20.0 ml	A	DI water	100 ml	3/1/2019	4/17/2019	JOHN	4/17/2019
0.01 mg/L	1.0 mg/L	1.0 mg/L	1.0 ml	A	DI water	100 ml	3/1/2019	4/17/2019	JOHN	4/17/2019
0 mg/L	NA	NA	NA	NA	NA	100 ml	NA	4/17/2019	JOHN	4/17/2019
ICV	1.0 mg/L	1.0 mg/L	10.0 ml	A	DI water	100 ml	0.1 mg/L	4/17/2019	JOHN	4/17/2019
CCV	1.0 mg/L	1.0 mg/L	10.0 ml	A	DI water	100 ml	0.1 mg/L	4/17/2019	JOHN	4/17/2019
CCVA	1.0 mg/L	1.0 mg/L	20.0 ml	A	DI water	100 ml	0.2 mg/L	4/17/2019	JOHN	4/17/2019

* If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the appropriate Accutest ID number.

Form: GN121-01
Rev. Date: 1/13/09

GN94251

TEST: CHLORINE, TOTAL RESIDUAL (TRC)
ANALYST: MO
METHOD: SM4500CL F-11
FAS PREP. DATE: 4/17/19
See reagent reference log attached.

MB 04/22

DATE: 4/17/19
RL: 0.10 UNITS: MG/L
NORMALITY OF FAS: 0.00294

Calculation = (Vol. of Titrant in ml) x (N FAS/0.00282) x (Dil. Factor) = TRC in mg/l

Sample Description	pH with the range of 6.2 to 6.5 (Y/N)	Analysis Time	Dilution	Sample Volume in ml	Titrant Start in ml	Titrant Finish in ml	Total Volume of Tritrant in ml	Result in mg/l	RL in mg/l
MB GN 94251-MB1	Y	23:57 ✓	1	100	0.00	0.02	0.02	0.02	0.1
1 - B1 ✓	Y		1	100	0.02	0.97	0.95	0.99 ✓	
JC86426-1 ✓ ~~DUP~~	Y		1	100	0.00	0.02	0.02	0.02 ✓	
2 DUP ✓	Y		1	100	0.02	0.04	0.02	0.02 ✓	
3 JC86512-8 ✓	Y		1	100	0.04	0.09	0.05	0.05 ✓	
4 TO ✓	Y	00:14	1	100	0.09	0.12	0.03	0.03 ✓	
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

All strikeouts must be initialed, dated, and reason applied if not transcription error

ANALYST: MO DATE: 4/17/19 QC REVIEW: ✓ DATE: 4/22/19
COMMENTS:

File Name: GN118-03
Rev. Date: 2/28/18

SGS

Reagent Information Log - TRC Total Residual Chlorine

GN94251

Reagent	Reagent # or Manufacturer/Lot	Exp. Date
Phosphate Buffer	GNE3-57472-TRC	6/11/19
N,N-Diethyl-P-Phenylene Diamine DPD Indicator	GNE3-57473-TRC	6/11/19
Potassium Iodide, KI, Crystals	Acros A037 2082	3-9-22
Barium diphenyl aminesulfonate	RICCA 1807569	7-30-19
Standard FAS	GNE4-57791-TRC	5/17/19
TRC BSP	GNE4-57710-TRC	5/17/19
Conc H_2SO_4	Fisher 154771	11-2-19
potassium dichromate 0.01N	RICCA 2802911	2-28-20

Form: GN087A74-03
Rev. Date: 2/27/18

SGS

Test: Iron, Ferrous
Product: FE2
Method: SM3500FE D-11 ◉ Units: mg/l

Analyst: JOHN
GN Batch ID: GN94257
GP Batch ID:
Date: 4/17/2019
Instrument ID: N

Original Calibration Information Calibration Date: 2/9/2019

	Blank	Std 1	Std 2	Std 3	Std 4	Std 5	Std 6	Std 7
Known:	0.000	0.100	0.200	0.500	1.000	2.000	4.000	6.000
Absorbance:	0.000	0.014	0.022	0.055	0.112	0.225	0.448	0.658
Actual Value:	-0.016	0.111	0.184	0.484	1.001	2.027	4.051	5.957

Continuing Calibration Check Standards Data:

	Blank	Std 1	Std 6
Known:	0.000	0.100	6.000
Absorbance:	0.000	0.012	0.655
Recovery:	0.0%	93.3%	98.8%
Actual Value:	-0.016	0.093	5.930

Correlation Coeff. = 0.99991
Slope = 9.07769
Intercept = -0.01565

Bottle #	Sample ID	Time Analyzed	Initial Wt (g) or Vol (ml)	Final Vol (ml)	Dilution	Sample Abs	Background Abs.	Result From Curve (mg/L)	Final Result	RL (Normal RL = 0.200 mg/l)	Units	Factor	pH Adjust
	ICV	23:30	50	50	1	0.118	NA	1.056	1.056	NA	mg/l	NA	NA
	CCV		50	50	1	0.116	NA	1.037	1.037	NA	mg/l	NA	NA
	GN94257-MB1		50	50	1	0.000	0.000	-0.016	-0.016	0.200	mg/l	1	NA
	GN94257-B1		50	50	1	0.325	0.000	2.935	2.935	0.200	mg/l	1	NA
7	GN94257-D1		50	50	1	0.003	0.001	0.003	0.003	0.200	mg/l	1	NA
7	GN94257-S1		50	50	1	0.359	0.001	3.234	3.234	0.200	mg/l	1	NA
7	GN94257-DS1		50	50	1	0.366	0.001	3.298	3.298	0.200	mg/l	1	NA
7	JC86512-8		50	50	1	0.004	0.001	0.012	0.012	0.200	mg/l	1	NA
6	JC86512-10		50	50	1	0.005	0.002	0.012	0.012	0.200	mg/l	1	NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
	CCV	23:45	50	50	1	0.658	NA	5.957	5.957	NA	mg/l	NA	NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA
			50	50	1								NA

QC: JC86512-8

B1151/DSC: 1.5 mL of 200 mg/L 100mL DI Sample

Analyst: John Date: 4/17/19 QC Reviewer: Date: 4/18/19

SGS

Test: **IRON, FERROUS**
Product: **FE2**
Method: **SM18 3500FE B-2011 (aqueous)** Units: mg/l

Analyst: John
GNBatch ID: GN94257
GPBatch ID:
Date: 4/17/19

Preparation Batch QC Summary Units =

Method Blank ID: GN94257-MB1 Date: 4/17/19 Result: <DL DL: 0.2 <DL: Y
Spike Blank ID: -BI Date: Result: 2.435 Spike: 3 %Rec.: 97.8
MS Blank ID: -SI Date: Results: 3.234 Samp. Result: <DL Spike: 3 %Rec.: 107.8
MS Duplicate ID: -DSI Date: Results: 3.298 Samp. Result: <DL Spike: 3 %Rec.: 109.9
Duplicate ID: -DI Date: Dup. Result: <DL Samp. Result: <DL %RPD.: 0
Matrix spike Duplicate Result: Matrix spike Result: %RPD:

Analysis Batch QC Summary Units =

ICV (Ext): Result: 1.057 TV: 1 %Rec.: 105.6

CCV : Result: 1.037 TV: 1 %Rec.: 103.7
CCVA : Result: 5.957 TV: 6 %Rec.: 99.2
CCV : Result: TV: %Rec.:
CCVA : Result: TV: %Rec.:
CCV : Result: TV: %Rec.:
CCVA : Result: TV: %Rec.:

CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:

Reagent Reference Numbers:

Analyst: John Date: 4/17/19

Comments:

Form: GN032-01
Rev. Date:9/4/09]

13.4 13

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG

Product: Fe2

GN or GP Number: GN94257

Intermediate Standard Description	Stock used to prepare standard	Stock concentration	Stock volume or weight used with units	Balance or Autopipet ID (*)	Additional Reagents	Diluent	Final Volume	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
10.00 mg/l STD	GNE4-57762-FE2	200 mg/L	5.00 mL	A		DI water	100mls	10	04/17/19	JOHN	04/17/19
10.00 mg/l ICV	GNE4-57763-FE2	200 mg/L	5	A		DI water	100mls	10	04/17/19	JOHN	04/17/19

Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration	Intermediate or Stock volume used in ml	Balance or Autopipet ID (*)	Additional Reagents	Diluent	Final Volume	Final Conc. of Standard (mg/l)	Expiration Date		Date
BLANK		0 mg/l	0.00	A	2.00 ml of concentrated HCL and 1.00 ml of hydroxylamine hydrochloride added to each standard.	DI water	100 ml	0.00			
0.10 mg/l	GNE4-57762-FE2	10 mg/l	1.00	A		DI water	100 ml	0.10	04/17/19	JOHN	04/17/19
0.20 mg/l	GNE4-57762-FE2	10 mg/l	2.00	A		DI water	100 ml	0.20	04/17/19	JOHN	04/17/19
0.50 mg/l	GNE4-57762-FE2	10 mg/l	5.00	A		DI water	100 ml	0.50	04/17/19	JOHN	04/17/19
1.00 mg/l	GNE4-57762-FE2	10 mg/l	10.00	A		DI water	100 ml	1.00	04/17/19	JOHN	04/17/19
2.00 mg/l	GNE4-57762-FE2	200 mg/l	1.00	A		DI water	100 ml	2.00	04/17/19	JOHN	04/17/19
4.00 mg/l	GNE4-57762-FE2	200 mg/l	2.00	A		DI water	100 ml	4.00	04/17/19	JOHN	04/17/19
6.00 mg/l	GNE4-57762-FE2	200 mg/l	3.00	A		DI water	100 ml	6.00	04/17/19	JOHN	04/17/19
ICV	GNE4-57763-FE2	10 mg/l	10.00	A		DI water	100 ml	5.00	04/17/19	JOHN	04/17/19
CCV	GNE4-57762-FE2	10 mg/l	10.00	A		DI water	100 ml	5.00	04/17/19	JOHN	04/17/19

Form: GN121-01
Rev. Date: 1/13/09

GN94257

SGS

Reagent Information Log
Test Name: FERROUS IRON (FE2)

Reagent	Reagent # or Manufacturer/Lot
PHENANTHROLINE REAGENT	GNE3-57507-FE2 XP:9/15/2019
AMMONIUM ACETATE BUFFER	GNE3-57404-FE2 XP:9/2/2019
FE2 STOCK	GNE4-57762-FE2 XP 5/2/19
ICV	GNE4-57763-FE2 XP 5/2/19

All standards and stocks were made as described in the SOP for this method (circle one): Y or N
If no (N), see attached page for standards prep.

Form: GN087-01
Rev. Date:4/17/2019

SGS

Test: Sulfide by Titration
Product: S
Method: (AQ) SM4500 S2 B, C, or F-11

Units: mg/l / mg/kg

Analyst: MRP
GN Batch ID: GN94263
GP Batch ID:
Date: 4/18/2019

Sulfide= ((Vi)(Ni) - (Vt)(Nt)) x 16000 x final Vol. / Vol titrated x initial wt or vol

Form: AGN-SULFIDE-AQ-04

Iodine reagent number: see attached page

Iodine Normality = Normality x vol of sodium thiosulfate / volume of iodine

Normality 1 = 0.0253
Normality 2 = 0.0253
Average = 0.025315

Sodium thiosulfate manufacturer and lot: see attached page
Normality = 0 0249

QC Summary:

Method Blank ID:	GN94263-MB1	Date:	4/18/2019	Result	<2	<DL:	y	Units
Spike Blank ID:	GN94263-B1	Date:	4/18/2019	Amt Spiked	4.88	Result:	4.88	% Rec: 100 %
Matrix Spike ID:	JC86426-1	MS Result	2.84	Samp Result	<2	Spike Amt.	3.31	Rec: 86.0
Duplicate ID:	JC86512-8	Samp Result:	<2	Dup Result:	<2	% RPD:		

Bottle #	Sample ID	Initial pH	Pre-Treat? Y or N	Initial Vol (ml)	Final Vol. (ml)	Sample Vol Titrated in ml (a)	Volume of Iodine in ml	Sodium Thiosulfate volume (start) ml	Sodium Thiosulfate volume (end) ml	Sodium Thiosulfate total vol in ml	Result	Final Result	Detection Limit (mg/l)	Units
	Iodine Standardization 1	>9	n	1.0	200.0	200.0	6.00	0.00	6.10	6.10	NA	NA	NA	NA
	Iodine Standardization 2	>9	n	1.0	200.0	200.0	6.00	0.00	6.10	6.10	NA	NA	NA	NA
	Sulfide Stock Std 1CONF	>9	y	1.0	200.0	200.0	6.00	0.00	3.65	3.65	976.080	976.08	2	mg/l
	Sulfide Stock Std 2CONF	>9	y	1.0	200.0	200.0	6.00	0.00	3.65	3.65	976.080	976.08	2	mg/l
	GN94263-MB1	>9	y	200.0	200.0	200.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
	GN94263-B1	>9	y	200.0	200.0	200.0	6.00	0.00	3.65	3.65	4.880	4.88	2	mg/l
	GN94263-B2	>9	y	200.0	200.0	200.0	6.00	0.00	1.30	1.30	9.562	9.56	2	mg/l
9	GN94263-S1	>9	y	295.0	295.0	295.0	6.00	0.00	4.00	4.00	2.836	2.84	2	mg/l
11	GN94263-D1	>9	y	290.0	290.0	290.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
10	JC86426-1	>9	y	290.0	290.0	290.0	6.00	0.00	6.70	6.70	-0.824	<2	2	mg/l
10	JC86512-8	>9	y	290.0	290.0	290.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
8	JC86512-10	>9	y	290.0	290.0	290.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
3	JC86511-1	>9	y	290.0	290.0	290.0	6.00	0.00	5.85	5.85	0.343	<2	2	mg/l
4	JC86511-2	>9	y	290.0	290.0	290.0	6.00	0.00	5.95	5.95	0.206	<2	2	mg/l
3	JC86511-3	>9	y	300.0	300.0	300.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
3	JC86511-4	>9	y	295.0	295.0	295.0	6.00	0.00	5.90	5.90	0.270	<2	2	mg/l
3	JC86511-5	>9	y	295.0	295.0	295.0	6.00	0.00	5.95	5.95	0.203	<2	2	mg/l
3	JC86511-6	>9	y	295.0	295.0	295.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
3	JC86511-7	>9	y	300.0	300.0	300.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
3	JC86511-8	>9	y	290.0	290.0	290.0	6.00	0.00	6.20	6.20	-0.137	<2	2	mg/l
3	JC86511-9	>9	y	300.0	300.0	300.0	6.00	0.00	6.00	6.00	0.133	<2	2	mg/l
3	JC86511-10	>9	y	290.0	290.0	290.0	6.00	0.00	5.90	5.90	0.275	<2	2	mg/l
3	JC86511-11	>9	y	295.0	295.0	295.0	6.00	0.00	6.15	6.15	-0.068	<2	2	mg/l
3	JC86511-12	>9	y	290.0	290.0	290.0	6.00	0.00	6.15	6.15	-0.069	<2	2	mg/l
	JC82168-8E	>9	y	200.0	200.0	200.0	6.00	0.00	2.70	2.70	6.773	6.77	2	mg/l
4	JC86534-1	>9	y	290.0	290.0	290.0	6.00	0.00	6.05	6.05	0.069	<2	2	mg/l
4	JC86534-2	>9	y	290.0	290.0	290.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l
4	JC86534-3	>9	y	290.0	290.0	290.0	6.00	0.00	6.00	6.00	0.137	<2	2	mg/l
4	JC86534-4	>9	y	280.0	280.0	280.0	6.00	0.00	6.10	6.10	0.000	<2	2	mg/l

$B_1 \leftarrow B_2 \rightarrow$ 1ml of 976.08 PPM → 200ml DI/DW → 1-V: 4.88 x 2 = 9.76 mg/L

MS → JC 86426-1
Dup → JC 86512-8
} Both sample are dec + colorless

Analyst MRP Date: 4/18/19 QC Reviewer _____ Date 4/19/19

SGS

gn 94263

Reagent Information Log - Sulfide

Reagent	Reagent # or Manufacturer/Lot
Hydrochloric Acid, 6N	GNE2-57107 -SREAC XP 8/1/19
Standard Iodine Solution 0.0250N	GNE2-57176-SULFIDE XP 8/7/19
Sodium Thiosulfate Solution 0.0251N	GNE3-57406-SULFIDE XP 9/2/19
Starch Indicator Solution	gne12-56667-sreac xp7/2020
Zinc Acetate Solution	GNE1-57028-SULFIDE XP7/24/19
Sodium Hydroxide, 6N	GNE11-56360-SULFIDE XP:5/5/19
Sulfide Stock Solution, 1000 ug/ml	GNE4-57776-SULFIDE XP4/23/19
pH Paper	Hydrion 223016 8/15/2019

All standards and stocks were made as described in the SOP for this method (circle one): Y or N
If no (N), see attached page for standards prep.

Form: GN087A-61
Rev. Date:4/18/2019

13.5 13

SGS

Pipette ID Class A

Balance ID

Sulfide Ext

Analyst

Product Sulfide

Prep Date 4/18/19

Batch ID

Sample Prep Log

Sample ID	Initial Sample Amount	Final Volume
P274-071	10 ml	1000 ml DI H_2O

Form: GN166-02
Rev. Date: 8/5/05

QC Review

ERA
A Waters Company

Instructions for Catalog #.071
Sulfide
Revision 030512

Description:
- This standard is packaged in a 10 mL flame-sealed ampule containing approximately 11 mL of standard concentrate.
- The concentrate will contain a noticeable white precipitate, which is a function of the preservation technique.
- This concentrate is preserved with sodium hydroxide and zinc acetate.
- The concentrate should be stored at 4±2°C.
- This product is intended to be used as a quality control check of the entire analytical process for the analytes/matrix included in the standard.
- The dilution instructions below represent the minimum suggested sample size for this product. Using a smaller sample size may invalidate the assigned value and/or uncertainty shown on the certificate of analysis.

Helpful Hints:
- This standard has been prepared as a concentrate and must be diluted prior to analysis.
- As the diluted standard is not stable, it must be analyzed **immediately** after the concentrate is diluted.

Instructions:
1. Add 100-200 mL of deionized water to a clean 1000 mL class A volumetric flask.
2. Shake the Sulfide ampule to homogenize the contents.
3. Carefully snap the top off of the Sulfide ampule.
4. While the white precipitate is still in suspension, use a clean, dry, class A pipet to transfer 10 mL of the concentrate into the 1000 mL volumetric flask.
5. Dilute the flask to final volume with deionized water.
6. Cap the flask and mix well.
7. Immediately analyze the diluted sample by your normal procedures.
8. Report your results as mg/L for the diluted sample.

Safety:
ERA products may be hazardous and are intended for use by professional laboratory personnel trained in the competent handling of such materials. Responsibility for the safe use of these products rests entirely with the buyer and/or user. Material Safety Data Sheets (MSDS) for all ERA products are available by calling 1-800-372-0122.

ERA
A Waters Company

Reference Materials

Certificate of Analysis

Product:	WatR™ Pollution Sulfide
Catalog Number:	071
Lot No.	P274-071
Certificate Issue Date:	January 12, 2018
Expiration Date:	March 31, 2021
Revision Number:	Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #071 revision 030512.

CERTIFICATION

Parameter	Certified Value[1]	Uncertainty[2]	QC Performance Acceptance Limits[3]	PT Performance Acceptance Limits[4]
	mg/L	%	mg/L	mg/L
Sulfide	8.09	10.0	3.91 - 10.5	3.92 - 11.5

ANALYTICAL VERIFICATION

Parameter	Certified Value[1]	Proficiency Testing Study			NIST Traceability	
		Mean	Recovery[5]	n	SRM Number	Recovery
	mg/L	mg/L	%			%
Sulfide	8.09	7.30	90.3	7	-	-

16341 Table Mountain Pkwy • Golden, CO 80403 • T: 800.372.0122 • 303.431.8454 • www.eraqc.com

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: 219041901.TXT
Analyst: NV

Date Analyzed: 04/19/19
Run ID: GN94318

Methods: EPA 300/SW846 9056A

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: NV Date 4/20/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date 4/22/19

Sequence: 219041901
Operator: chemistry

Printed: 4/20/2019 9:14:43 AM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\APRIL
Timebase: ACCUTEST_SYS#2
#Samples: 50 GN94318

Created: 4/19/2019 9:19:27 AM by chemistry
Last Update: 4/19/2019 3:04:23 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
1	BLANKCONF	1		Unknown	20.0	1.0000	Finished	4/19/2019 9:26:08 AM
2	STDA	2		Standard	20.0	1.0000	Finished	4/14/2019 4:39:11 PM
3	STDB	3		Standard	20.0	1.0000	Finished	4/14/2019 5:03:06 PM
4	STDC	4		Standard	20.0	1.0000	Finished	4/14/2019 5:27:01 PM
5	STDCD	5		Standard	20.0	1.0000	Finished	4/14/2019 5:50:57 PM
6	STDD	6		Standard	20.0	1.0000	Finished	4/14/2019 6:14:52 PM
7	STDDE	7		Standard	20.0	1.0000	Finished	4/14/2019 6:38:47 PM
8	STDE	8		Standard	20.0	1.0000	Finished	4/14/2019 7:02:43 PM
9	STDF	9		Standard	20.0	1.0000	Finished	4/14/2019 7:26:39 PM
10	STDG	10		Standard	20.0	1.0000	Finished	4/14/2019 7:50:35 PM
11	ICV	2		Unknown	20.0	1.0000	Finished	4/19/2019 9:49:37 AM
12	CCV	3		Unknown	20.0	1.0000	Finished	4/19/2019 10:13:33 AM
13	CCB	4		Unknown	20.0	1.0000	Finished	4/19/2019 10:37:28 AM
14	MBSO	5		Unknown	20.0	1.0000	Finished	4/19/2019 11:01:24 AM
15	BSPSO	6		Unknown	20.0	1.0000	Finished	4/19/2019 11:25:20 AM
16	JC85833-3	7		Unknown	20.0	3.0000	Finished	4/19/2019 12:01:51 PM
17	JC85833-3A	8		Unknown	20.0	3.0000	Finished	4/19/2019 12:25:24 PM
18	MB	9		Unknown	20.0	1.0000	Finished	4/19/2019 12:49:20 PM
19	BSP	10		Unknown	20.0	1.0000	Finished	4/19/2019 1:13:15 PM
20	GP20698-S1	11	JC86397-1	Unknown	20.0	2.0000	Finished	4/19/2019 1:37:10 PM
21	JC86397-3	12		Unknown	20.0	10.0000	Finished	4/19/2019 2:01:07 PM
22	JC86426-1	13		Unknown	20.0	1.0000	Finished	4/19/2019 2:25:02 PM
23	GP20737-S1	14		Unknown	20.0	1.0000	Finished	4/19/2019 2:48:58 PM
24	CCV	15		Unknown	20.0	1.0000	Finished	4/19/2019 3:12:54 PM
25	CCB	16		Unknown	20.0	1.0000	Finished	4/19/2019 3:36:49 PM
26	GP20737-D1	17	JC86512-8	Unknown	20.0	1.0000	Finished	4/19/2019 4:00:45 PM
27	JC86512-8	18		Unknown	20.0	1.0000	Finished	4/19/2019 4:24:40 PM
28	GP20737-S2	19	JC86512-10	Unknown	20.0	1.0000	Finished	4/19/2019 4:48:35 PM
29	JC86512-10	20		Unknown	20.0	1.0000	Finished	4/19/2019 5:12:31 PM
30	JC86487-1	21		Unknown	20.0	1.0000	Finished	4/19/2019 5:36:27 PM
31	JC86487-2	22		Unknown	20.0	1.0000	Finished	4/19/2019 6:00:22 PM
32	JC86514-1	23		Unknown	20.0	1.0000	Finished	4/19/2019 6:24:17 PM
33	JC86511-1	24		Unknown	20.0	1.0000	Finished	4/19/2019 6:48:14 PM
34	JC86511-2	25		Unknown	20.0	1.0000	Finished	4/19/2019 7:12:09 PM
35	JC86511-3	26		Unknown	20.0	1.0000	Finished	4/19/2019 7:36:04 PM
36	CCV	27		Unknown	20.0	1.0000	Finished	4/19/2019 8:00:00 PM
37	CCB	28		Unknown	20.0	1.0000	Finished	4/19/2019 8:23:55 PM
38	JC86511-4	29		Unknown	20.0	1.0000	Finished	4/19/2019 8:47:50 PM
39	JC86511-5	30		Unknown	20.0	1.0000	Finished	4/19/2019 9:11:45 PM
40	JC86511-6	31		Unknown	20.0	1.0000	Finished	4/19/2019 9:35:41 PM
41	JC86511-7	32		Unknown	20.0	1.0000	Finished	4/19/2019 9:59:37 PM
42	JC86511-8	33		Unknown	20.0	1.0000	Finished	4/19/2019 10:23:33 PM

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

13.6
13

Sequence: 219041901
Operator: chemistry

Printed: 4/20/2019 9:14:49 AM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\APRIL
Timebase: ACCUTEST_SYS#2
#Samples: 50
Created: 4/19/2019 9:19:27 AM by chemistry
Last Update: 4/19/2019 3:04:23 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
43	JC86511-9	34		Unknown	20.0	1.0000	Finished	4/19/2019 10:47:28 PM
44	JC86511-10	35		Unknown	20.0	1.0000	Finished	4/19/2019 11:11:24 PM
45	JC86511-11	36		Unknown	20.0	1.0000	Finished	4/19/2019 11:35:20 PM
46	JC86511-12	37		Unknown	20.0	1.0000	Finished	4/19/2019 11:59:16 PM
47	JC86426-1	41		Unknown	20.0	2.0000	Finished	4/20/2019 12:23:11 AM
48	CCV	38		Unknown	20.0	1.0000	Finished	4/20/2019 12:47:07 AM
49	CCB	39		Unknown	20.0	1.0000	Finished	4/20/2019 1:11:03 AM
50	STANDBY	40		Unknown	20.0	1.0000	Finished	4/20/2019 1:34:57 AM

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 219041901
Operator: chemistry

Printed: 4/19/2019 12:09:14 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\APRIL
Timebase: ACCUTEST_SYS#2
#Samples: 49

GN94318

Created: 4/19/2019 9:19:27 AM by chemistry
Last Update: 4/19/2019 12:09:10 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
1	BLANKCONF	1		Unknown	20.0	1.0000	Finished	4/19/2019 9:26:08 AM
2	STDA	2		Standard	20.0	1.0000	Finished	4/14/2019 4:39:11 PM
3	STDB	3		Standard	20.0	1.0000	Finished	4/14/2019 5:03:06 PM
4	STDC	4		Standard	20.0	1.0000	Finished	4/14/2019 5:27:01 PM
5	STDCD	5		Standard	20.0	1.0000	Finished	4/14/2019 5:50:57 PM
6	STDD	6		Standard	20.0	1.0000	Finished	4/14/2019 6:14:52 PM
7	STDDE	7		Standard	20.0	1.0000	Finished	4/14/2019 6:38:47 PM
8	STDE	8		Standard	20.0	1.0000	Finished	4/14/2019 7:02:43 PM
9	STDF	9		Standard	20.0	1.0000	Finished	4/14/2019 7:26:39 PM
10	STDG	10		Standard	20.0	1.0000	Finished	4/14/2019 7:50:35 PM
11	ICV	2		Unknown	20.0	1.0000	Finished	4/19/2019 9:49:37 AM
12	CCV	3		Unknown	20.0	1.0000	Finished	4/19/2019 10:13:33 AM
13	CCB	4		Unknown	20.0	1.0000	Finished	4/19/2019 10:37:28 AM
14	MBSO	5		Unknown	20.0	1.0000	Finished	4/19/2019 11:01:24 AM
15	BSPSO	6		Unknown	20.0	1.0000	Finished	4/19/2019 11:25:20 AM
	JC85833-3	7		Unknown	20.0	3.0000	Running	4/19/2019 12:01:51 PM
17	JC85833-3A	8		Unknown	20.0	3.0000	Single	4/19/2019 12:01:33 PM
18	MB	9		Unknown	20.0	1.0000	Single	4/19/2019 12:01:38 PM
19	BSP	10		Unknown	20.0	1.0000	Single	
20	GP20698-S1	11	JC86397-1	Unknown	20.0	2.0000	Single	
21	JC86397-3	12		Unknown	20.0	10.0000	Single	
22	JC86426-1	13		Unknown	20.0	1.0000	Single	
23	GP20737-S1	14		Unknown	20.0	1.0000	Single	
24	CCV	15		Unknown	20.0	1.0000	Single	
25	CCB	16		Unknown	20.0	1.0000	Single	
26	GP20737-D1	17	JC86512-8	Unknown	20.0	1.0000	Single	
27	JC86512-8	18		Unknown	20.0	1.0000	Single	
28	GP20737-S2	19	JC86512-10	Unknown	20.0	1.0000	Single	
29	JC86512-10	20		Unknown	20.0	1.0000	Single	
30	JC86487-1	21		Unknown	20.0	1.0000	Single	
31	JC86487-2	22		Unknown	20.0	1.0000	Single	
32	JC86514-1	23		Unknown	20.0	1.0000	Single	
33	JC86511-1	24		Unknown	20.0	1.0000	Single	
34	JC86511-2	25		Unknown	20.0	1.0000	Single	
35	JC86511-3	26		Unknown	20.0	1.0000	Single	
36	CCV	27		Unknown	20.0	1.0000	Single	
37	CCB	28		Unknown	20.0	1.0000	Single	
38	JC86511-4	29		Unknown	20.0	1.0000	Single	
39	JC86511-5	30		Unknown	20.0	1.0000	Single	
40	JC86511-6	31		Unknown	20.0	1.0000	Single	
41	JC86511-7	32		Unknown	20.0	1.0000	Single	
42	JC86511-8	33		Unknown	20.0	1.0000	Single	

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 219041901
Operator: chemistry

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\Anions 2019\APRIL
Timebase: ACCUTEST_SYS#2
#Samples: 49

Created: 4/19/2019 9:19:27 AM by chemistry
Last Update: 4/19/2019 12:08:29 PM by chemistry

No.	Name	Pos.	Comment	Type	Inj. Vol.	Dil. Factor	Status	Inj. Date/Time
43	JC86511-9	34		Unknown	20.0	1.0000	Single	
44	JC86511-10	35		Unknown	20.0	1.0000	Single	
45	JC86511-11	36		Unknown	20.0	1.0000	Single	
46	JC86511-12	37		Unknown	20.0	1.0000	Single	
47	CCV	38		Unknown	20.0	1.0000	Single	
48	CCB	39		Unknown	20.0	1.0000	Single	
49	STANDBY	40		Unknown	20.0	1.0000	Single	

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

SGS

Analyst NV

Product CNI

Pipette ID 42

Prep Date 4/19/19

Balance ID NA

Batch ID GN94318

Sample Prep Log

Sample ID	Initial Sample Amount	Final Volume (mL)	
BSP	0.5mL of spiking solution	50	
GP20737-S1	0.5mL of spiking solution	50	JC86512-8
GP20737-S2	0.5mL of spiking solution	50	JC86512-16

4/19/19

Form: GN166-02
Rev. Date: 8/5/05

QC Review

13.6 13

Analyst NV Product CN1 Autopipette # 42

Date 4/19/19 Batch ID GN94318 Class A Vol. Flask

Sample Dilution Prep Log

Sample ID	Dilution	Initial Volume	Final Volume	Comments
GP20648-S1	1:2	NV 4/19/19 ~~to~~ 25	NV 4/19/19 ~~20~~ 50	CN1 JC86397-1 0.5mL spike
JC86397-3	1:10	5	50	CN1
JC85833-3	1:3	10	30	F
JC85833-3A	1:3	10	30	F
JC86426-1	1:2	10	20	CN1

CN 4/19/19

Form: GN165-01
Rev. Date: 2/25/03

SGS

Reagent Information Log - IONC IC2 - Water /Soil

GN Batch ID#: GN94318

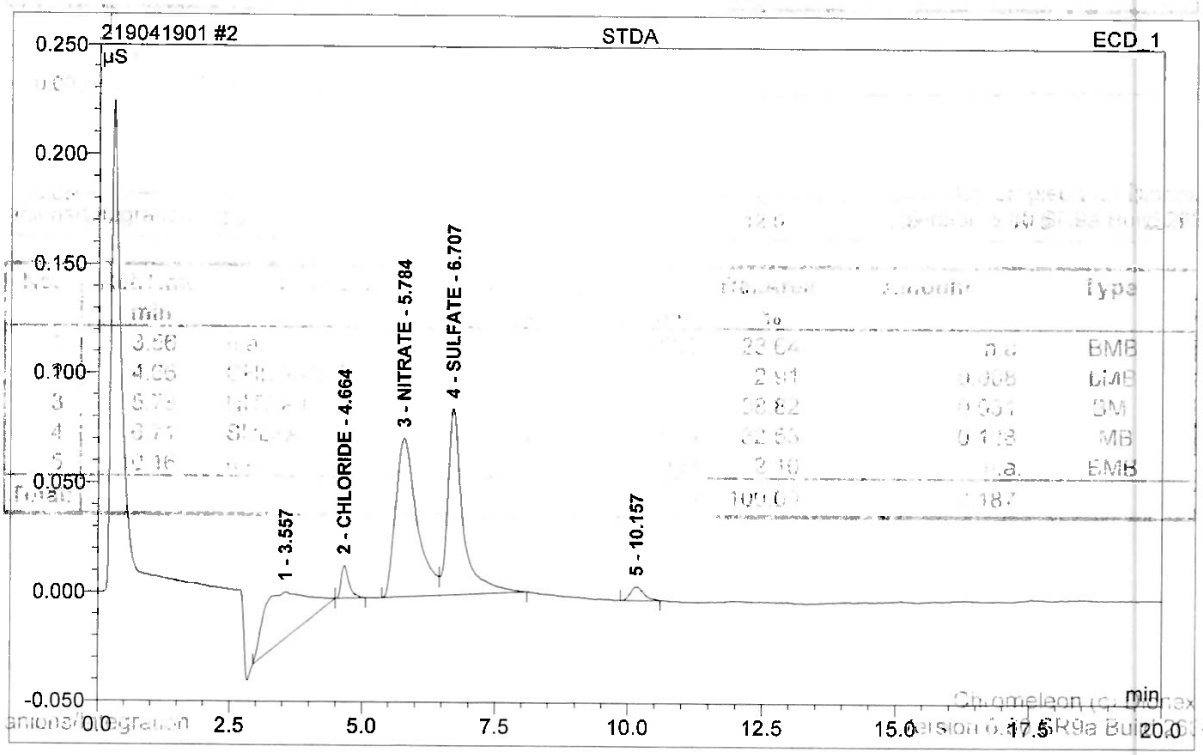
Reagent	Reagent # or Manufacturer/Lot	Exp. Date
Standard Intermediate (for Calibration Curve)	GN18-476-124	4/21/2019
Standard Intermediate (for Calibration Curve)	GN18-476-126	4/21/2019
ICV	GN18-479-37	4/21/2019
Eluent	1804742445014	7/24/2020
Standard Intermediate (for Working std/Spikes)	GN18-476-124	4/21/2019
Standard Intermediate (for Working std/Spikes)	GN18-476-126	4/21/2019
CCV	GN19-493-13	4/21/2019
Spiking Solution Intermediate (CHL/SO4)	GN18-478-35	4/30/2019
Spiking Solution Intermediate (F/BRO)	GN18-478-36	4/30/2019
Spiking Solution (SOUP)	GN18-478-39	4/21/2019
Filter lot numbers	GREENWOOD #180111044	NA

Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error

Form : GN087A-76
Rev. Date: 4/7/09

2 STDA

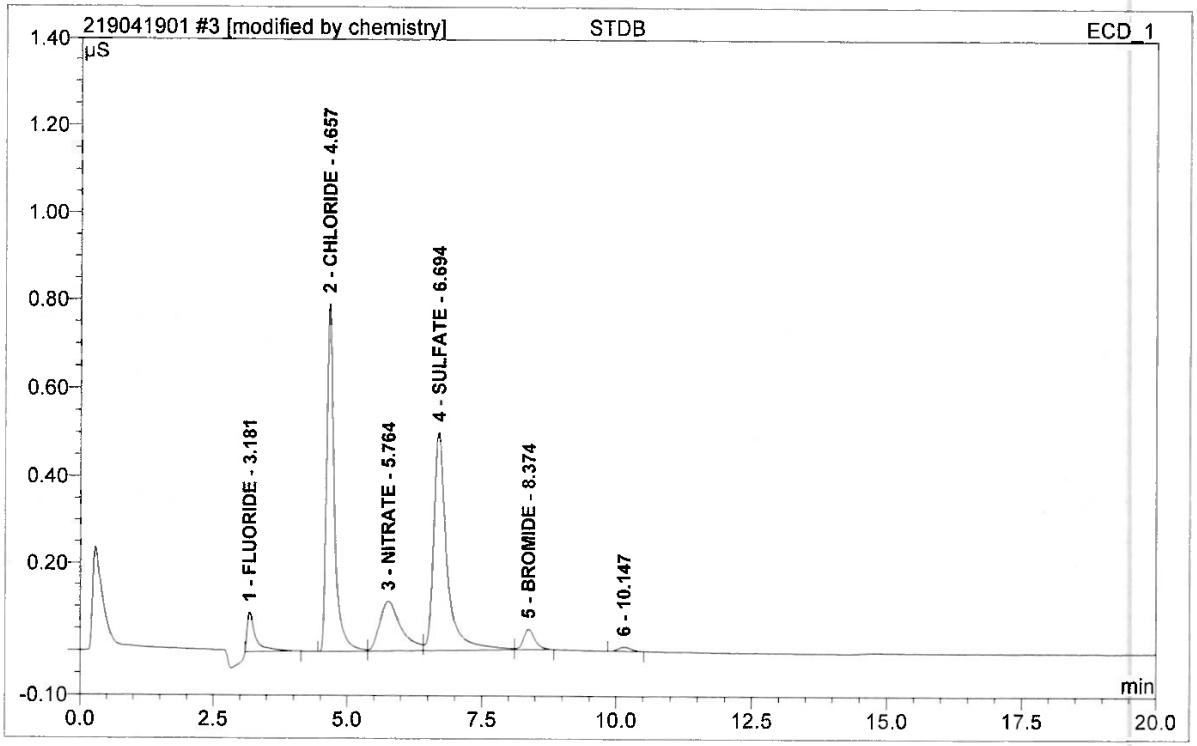
Sample Name:	**STDA**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 16:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.56	n.a.	0.021	0.020	23.64	n.a.	BMB
2	4.66	CHLORIDE	0.015	0.003	2.91	0.008	bMB
3	5.78	NITRATE	0.072	0.034	38.82	0.051	BM
4	6.71	SULFATE	0.085	0.028	32.53	0.128	MB
5	10.16	n.a.	0.006	0.002	2.10	n.a.	BMB
Total:			0.199	0.086	100.00	0.187	

3 STDB

Sample Name:	**STDB**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 17:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.089	0.016	4.61	0.035	BMB*
2	4.66	CHLORIDE	0.792	0.133	37.24	0.448	BM *
3	5.76	NITRATE	0.112	0.052	14.40	0.078	M *
4	6.69	SULFATE	0.500	0.142	39.75	0.646	M *
5	8.37	BROMIDE	0.046	0.012	3.25	0.094	MB*
6	10.15	n.a.	0.010	0.003	0.75	n.a.	BMB
Total:			1.549	0.358	100.00	1.301	

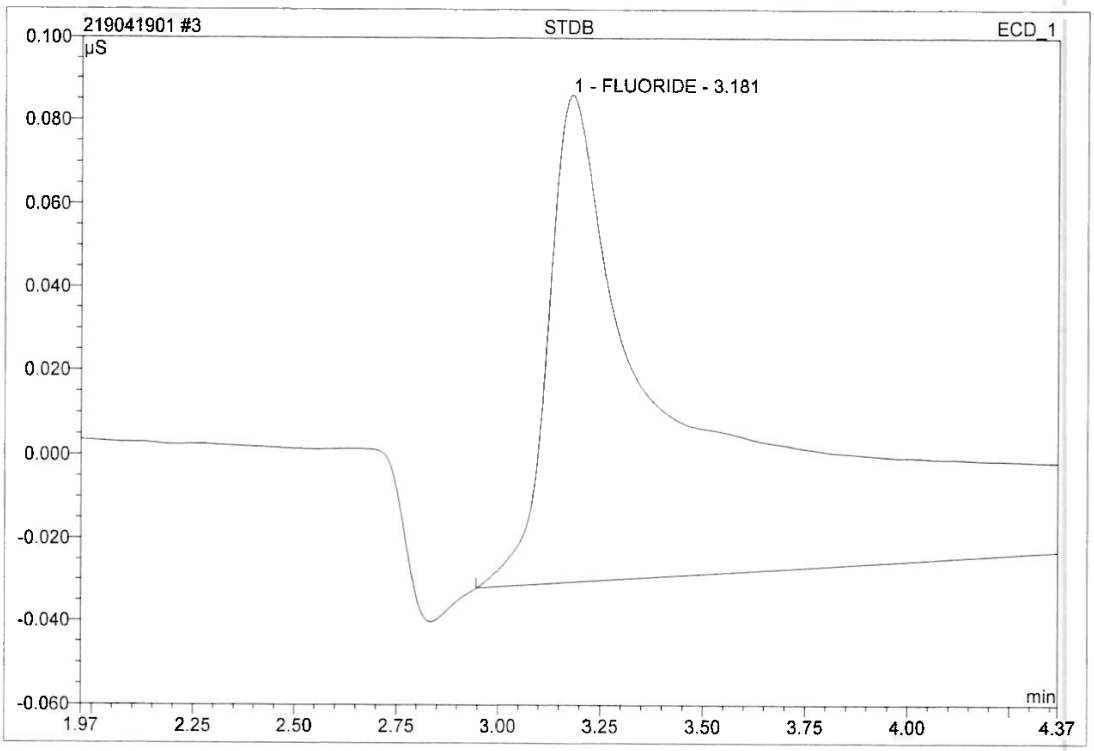
PW
NV 4/20/19

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

4/20/2019 9:26 AM

3 STDB

Sample Name:	**STDB**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 17:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.117	0.052	11.78	0.111	BM
2	4.66	CHLORIDE	0.812	0.150	34.28	0.505	M
3	5.76	NITRATE	0.127	0.066	15.05	0.100	M
4	6.69	SULFATE	0.510	0.155	35.33	0.703	M
5	8.37	BROMIDE	0.048	0.013	2.94	0.104	MB
6	10.15	n.a.	0.010	0.003	0.61	n.a.	BMB
Total:			1.624	0.438	100.00	1.522	

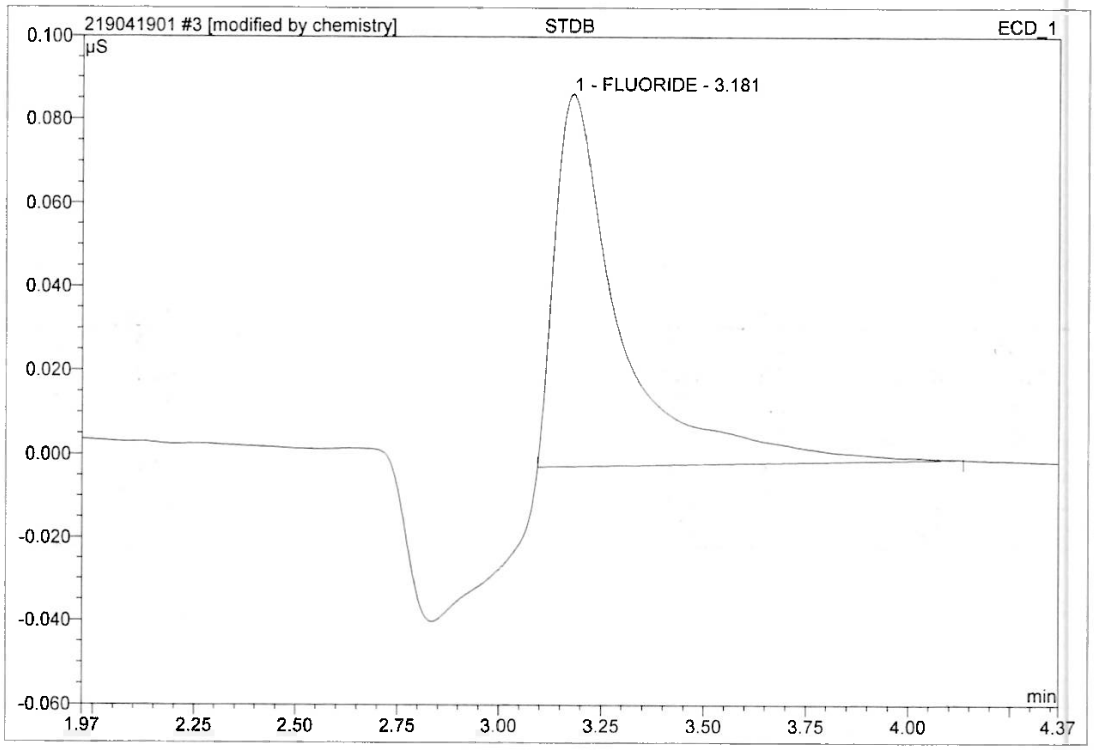
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

3 STDB

Sample Name:	**STDB**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 17:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



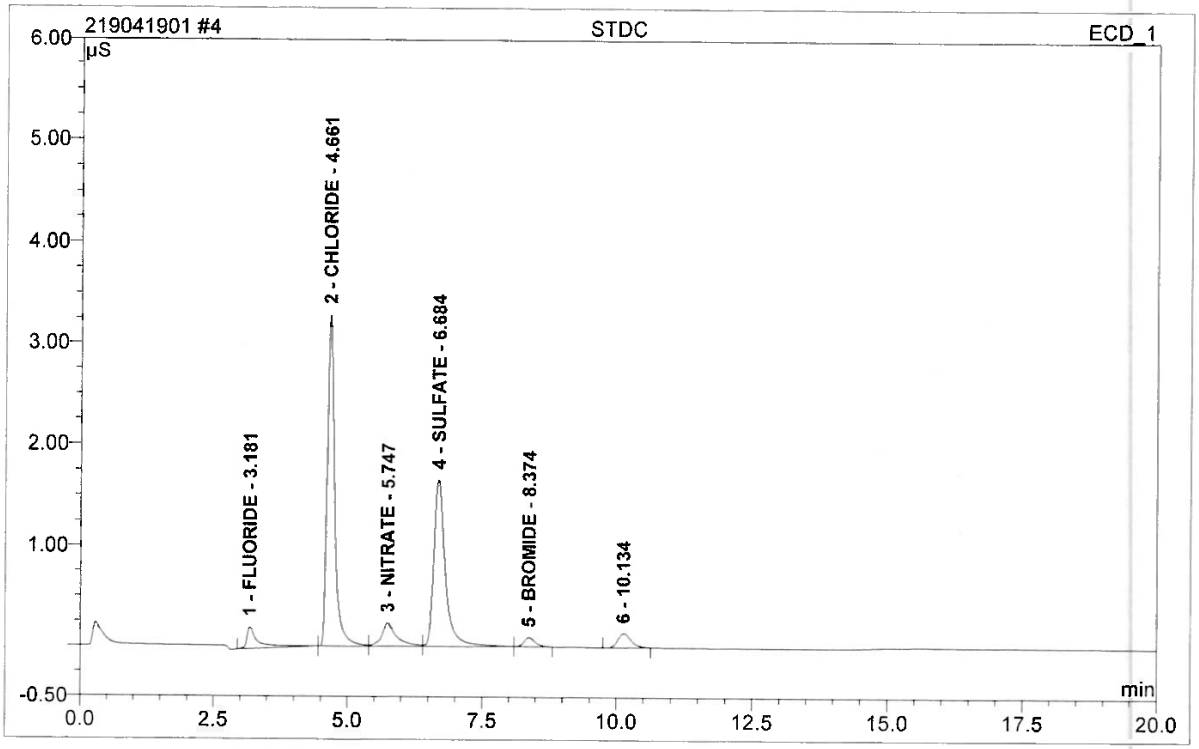
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.089	0.016	4.61	0.035	BMB*
2	4.66	CHLORIDE	0.792	0.133	37.24	0.448	BM *
3	5.76	NITRATE	0.112	0.052	14.40	0.078	M *
4	6.69	SULFATE	0.500	0.142	39.75	0.646	M *
5	8.37	BROMIDE	0.046	0.012	3.25	0.094	MB*
6	10.15	n.a.	0.010	0.003	0.75	n.a.	BMB
Total:			1.549	0.358	100.00	1.301	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

4 STDC

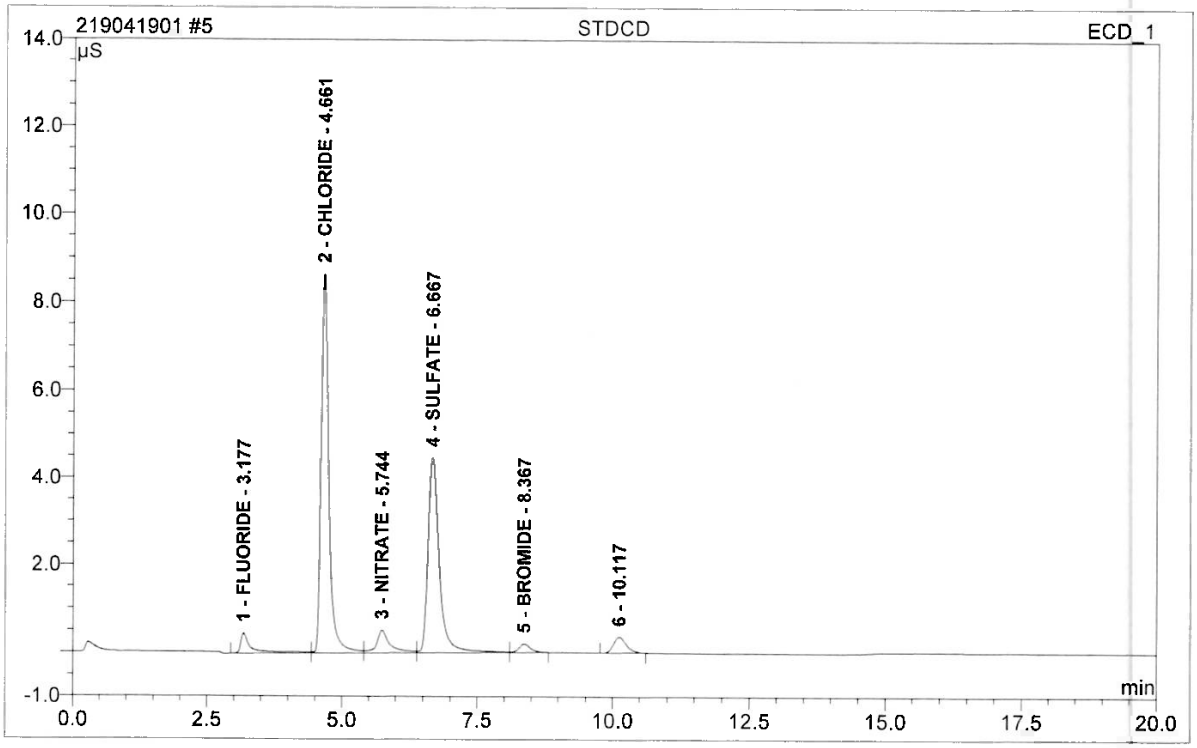
Sample Name:	**STDC**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 17:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.212	0.053	4.68	0.114	BMB
2	4.66	CHLORIDE	3.284	0.534	46.93	1.793	bM
3	5.75	NITRATE	0.232	0.075	6.61	0.114	M
4	6.68	SULFATE	1.657	0.414	36.39	1.879	M
5	8.37	BROMIDE	0.090	0.022	1.96	0.180	MB
6	10.13	n.a.	0.138	0.039	3.43	n.a.	BMB
Total:			5.612	1.138	100.00	4.081	

5 STDCD

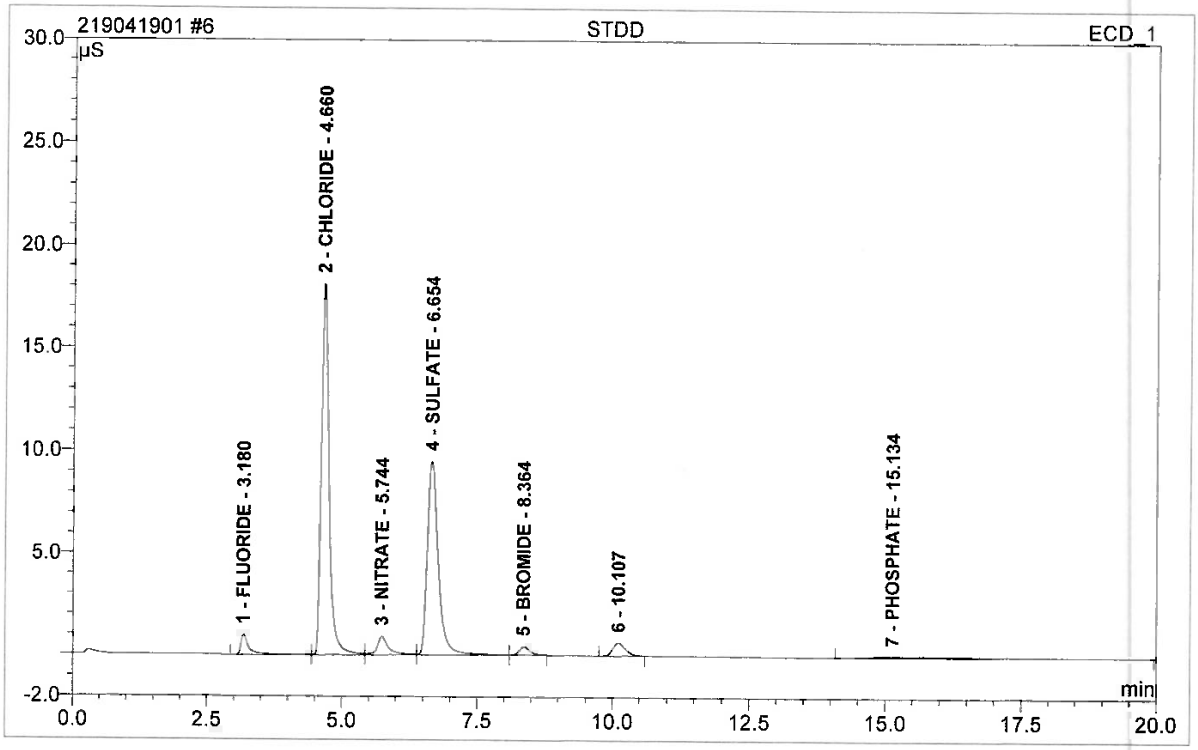
Sample Name:	**STDCD**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 17:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.454	0.109	3.73	0.234	BM
2	4.66	CHLORIDE	8.651	1.433	49.21	4.813	M
3	5.74	NITRATE	0.512	0.146	5.01	0.221	M
4	6.67	SULFATE	4.483	1.077	36.97	4.887	M
5	8.37	BROMIDE	0.192	0.048	1.64	0.386	MB
6	10.12	n.a.	0.360	0.100	3.44	n.a.	BMB
Total:			14.652	2.912	100.00	10.541	

6 STDD

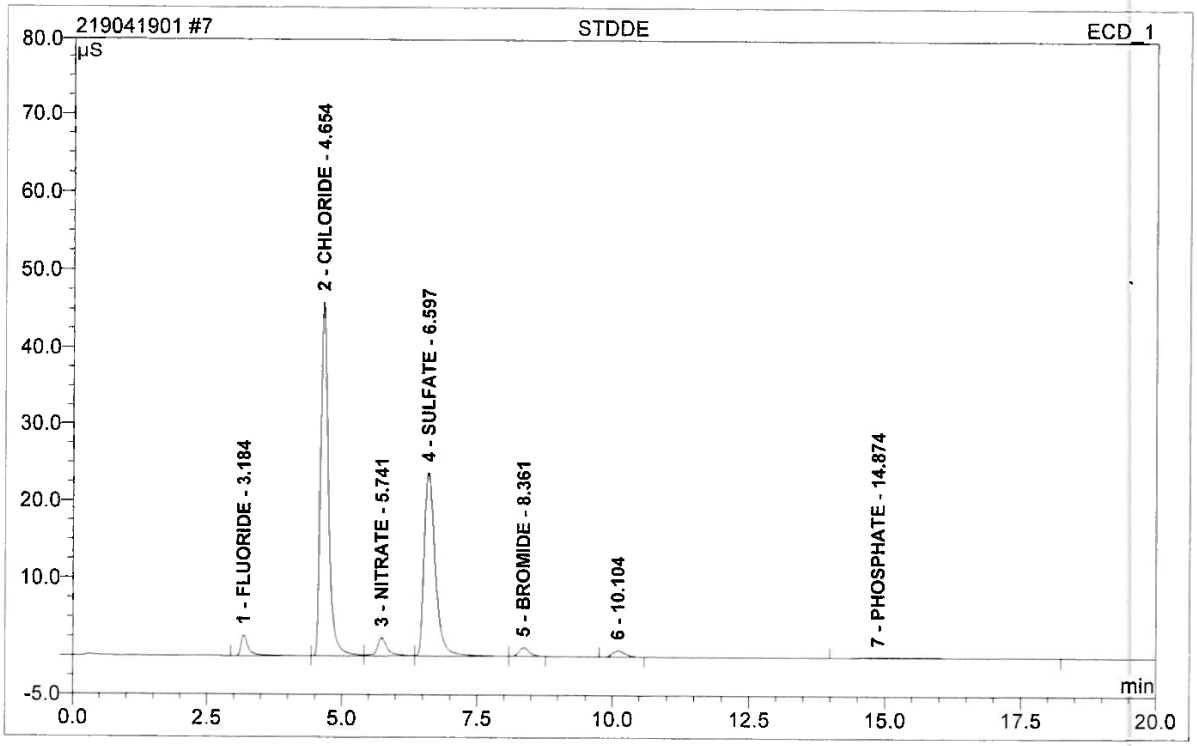
Sample Name:	**STDD**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 18:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.974	0.189	3.11	0.405	BM
2	4.66	CHLORIDE	18.131	3.014	49.73	10.124	M
3	5.74	NITRATE	0.902	0.225	3.72	0.342	M
4	6.65	SULFATE	9.505	2.241	36.98	10.172	M
5	8.36	BROMIDE	0.400	0.095	1.56	0.764	MB
6	10.11	n.a.	0.635	0.174	2.87	n.a.	BMB
7	15.13	PHOSPHATE	0.054	0.122	2.01	0.660	BMB
Total:			30.601	6.060	100.00	22.467	

7 STDDE

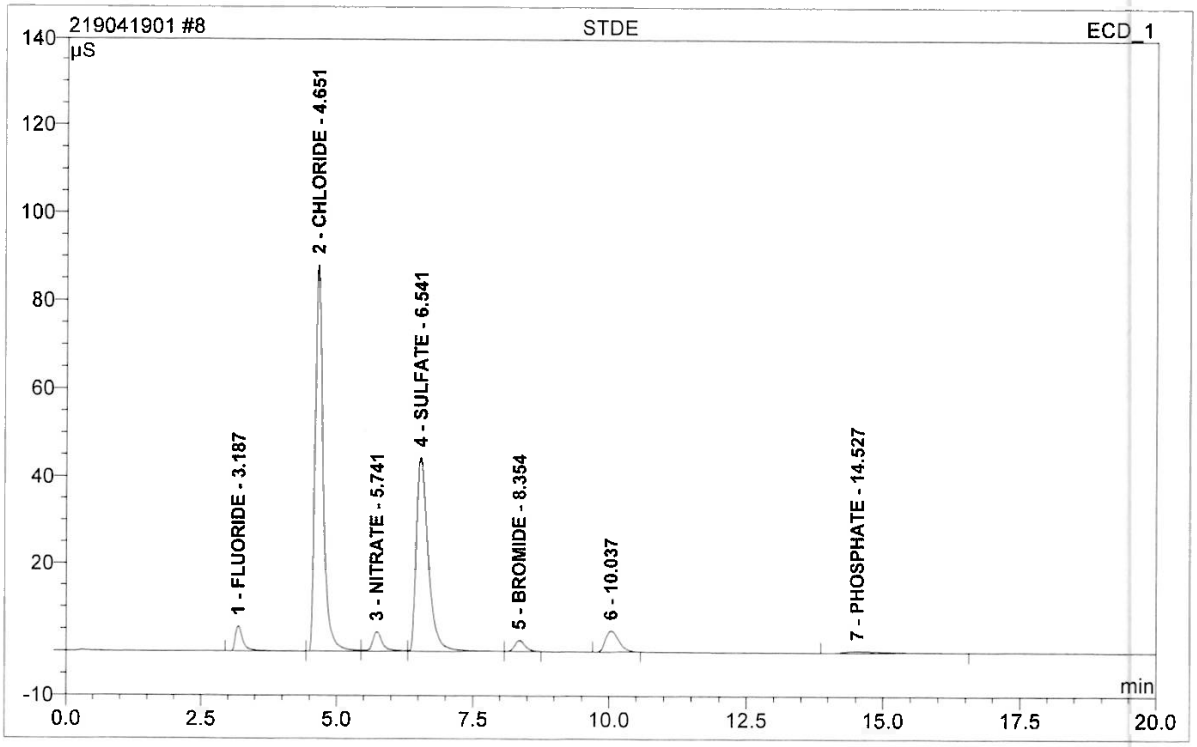
Sample Name:	**STDDE**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 18:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	2.647	0.449	2.99	0.966	BM
2	4.65	CHLORIDE	45.904	7.708	51.35	25.892	M
3	5.74	NITRATE	2.369	0.543	3.61	0.822	M
4	6.60	SULFATE	23.748	5.663	37.72	25.701	M
5	8.36	BROMIDE	1.111	0.253	1.68	2.039	MB
6	10.10	n.a.	0.826	0.225	1.50	n.a.	BMB
7	14.87	PHOSPHATE	0.111	0.170	1.13	0.920	BMB
Total:			76.716	15.011	100.00	56.339	

8 STDE

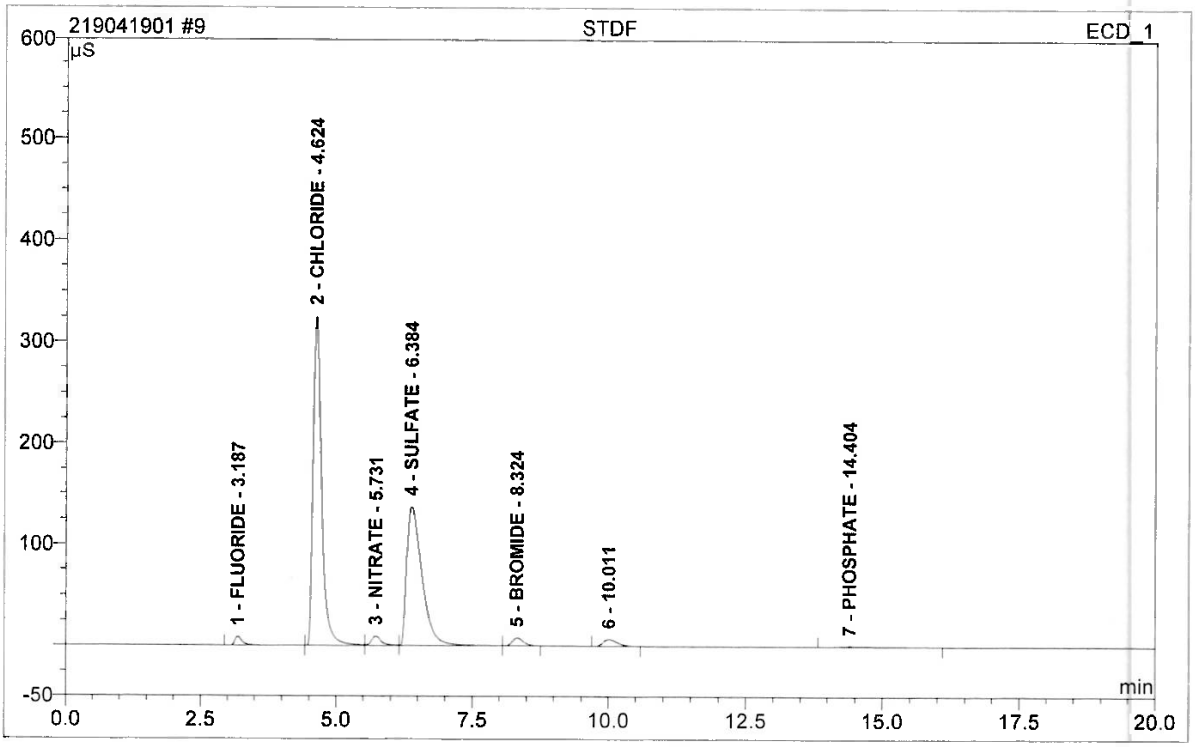
Sample Name:	**STDE**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 19:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	5.577	0.929	3.05	1.997	BM
2	4.65	CHLORIDE	88.047	15.171	49.78	50.959	M
3	5.74	NITRATE	4.356	0.937	3.08	1.420	M
4	6.54	SULFATE	44.379	11.182	36.69	50.751	M
5	8.35	BROMIDE	2.395	0.543	1.78	4.380	MB
6	10.04	n.a.	4.668	1.349	4.43	n.a.	BMB
7	14.53	PHOSPHATE	0.403	0.366	1.20	1.980	BMB
Total:			149.826	30.478	100.00	111.486	

9 STDF

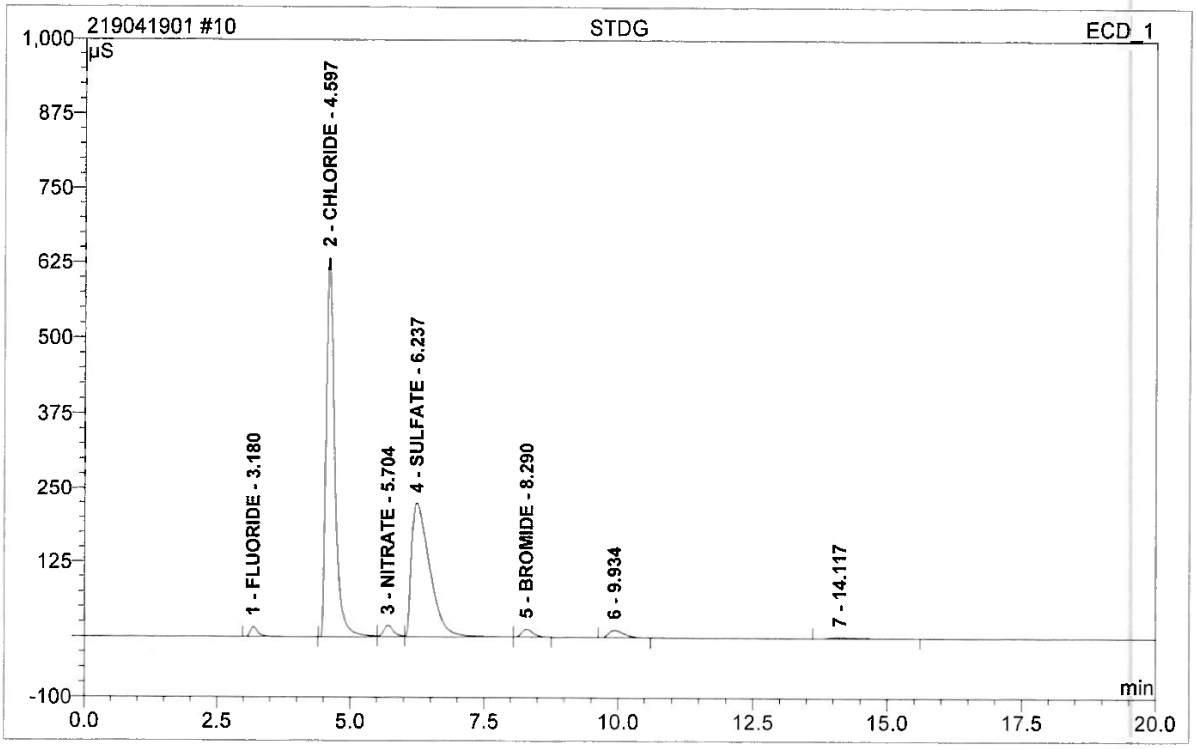
Sample Name:	**STDF**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 19:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



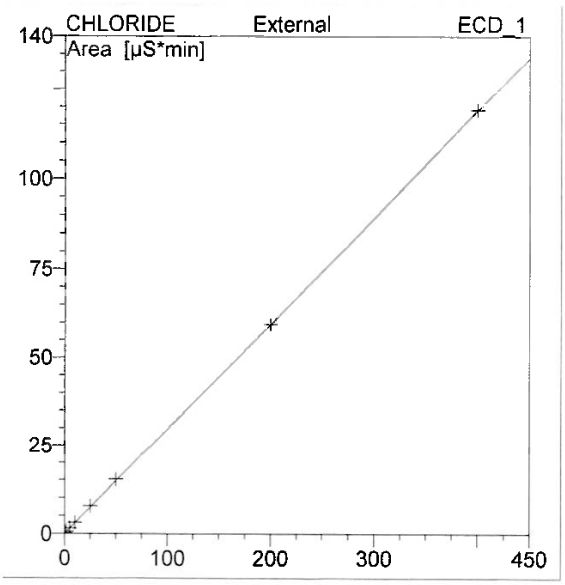
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	8.439	1.411	1.26	3.033	BMB
2	4.62	CHLORIDE	325.169	59.457	53.28	199.714	BM
3	5.73	NITRATE	9.330	1.997	1.79	3.026	M
4	6.38	SULFATE	137.050	44.364	39.75	201.355	Mb
5	8.32	BROMIDE	7.562	1.799	1.61	14.518	bMB
6	10.01	n.a.	6.673	2.015	1.81	n.a.	BMB
7	14.40	PHOSPHATE	0.715	0.556	0.50	3.006	BMB
Total:			494.937	111.599	100.00	424.651	

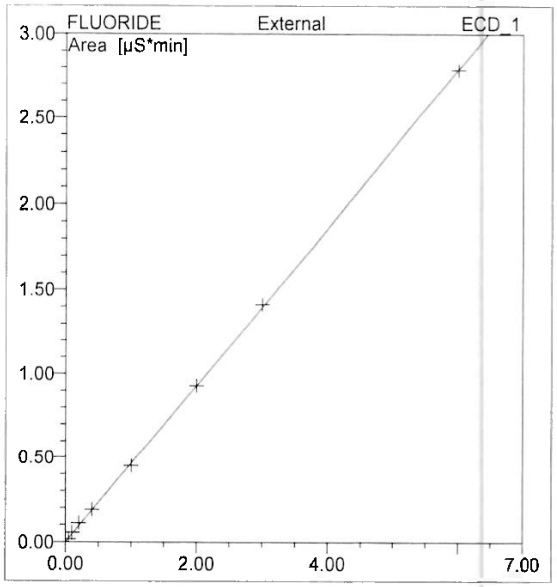
10 STDG

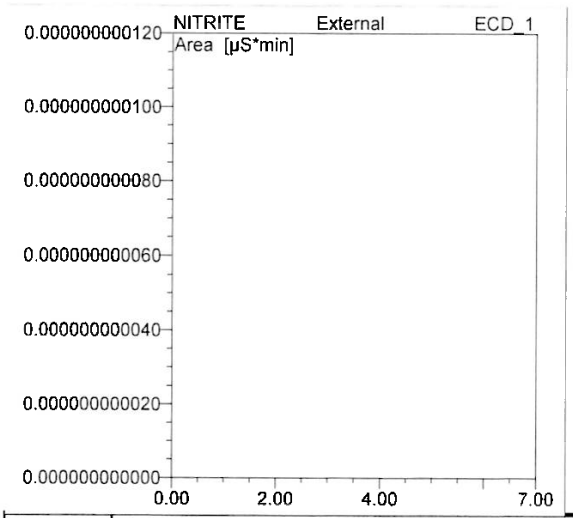
Sample Name:	**STDG**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/14/2019 19:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

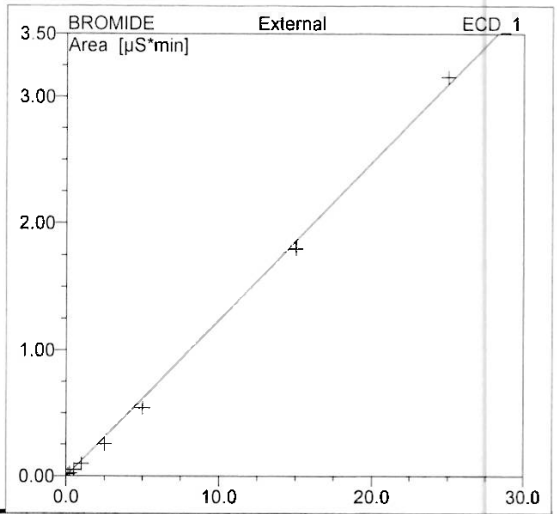


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	16.283	2.786	1.25	5.989	BMB
2	4.60	CHLORIDE	633.027	119.074	53.57	399.968	BM
3	5.70	NITRATE	18.714	4.100	1.84	6.212	M
4	6.24	SULFATE	225.054	87.951	39.57	399.182	Mb
5	8.29	BROMIDE	12.740	3.157	1.42	25.472	bMB
6	9.93	n.a.	12.140	4.028	1.81	n.a.	BMB
7	14.12	n.a.	1.714	1.171	0.53	n.a.	BMB
Total:			919.673	222.266	100.00	836.824	



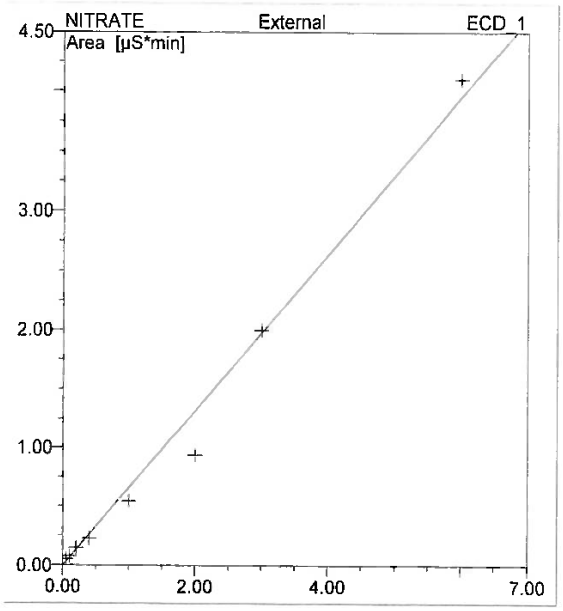


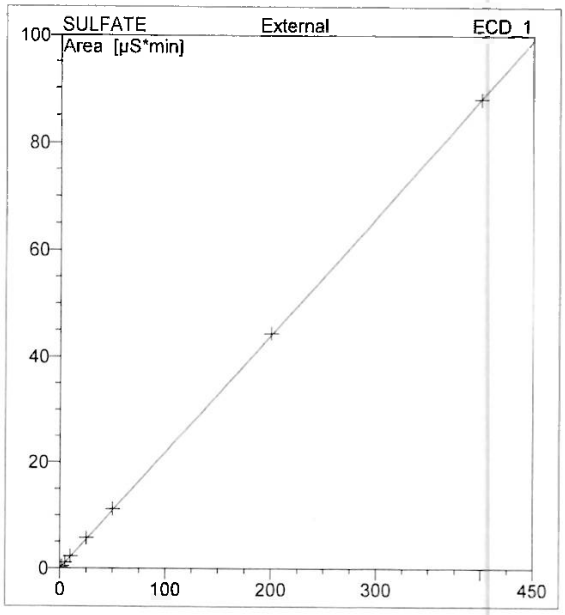


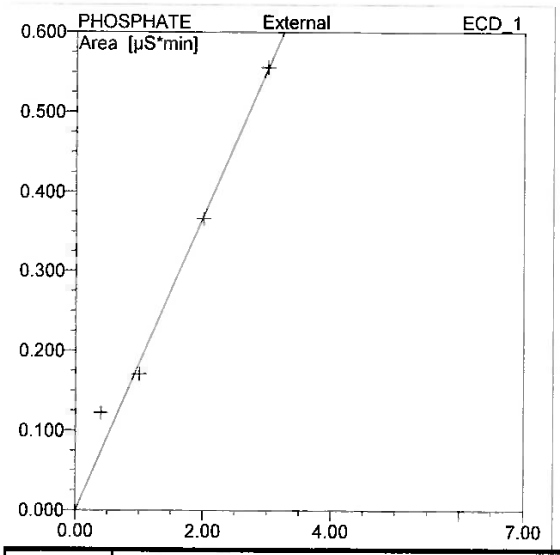


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.18	FLUORIDE	Lin	8	99.9936	0.0000	0.4652	0.0000
2	4.60	CHLORIDE	Lin	8	99.9994	0.0000	0.2977	0.0000
3	5.70	NITRATE	Lin	8	99.4303	0.0000	0.6599	0.0000
4	6.24	SULFATE	Lin	8	99.9990	0.0000	0.2203	0.0000
5	8.29	BROMIDE	Lin	8	99.9436	0.0000	0.1239	0.0000
6	9.93	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	14.12	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Average:					99.8732	0.0000	0.3534	0.0000

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901





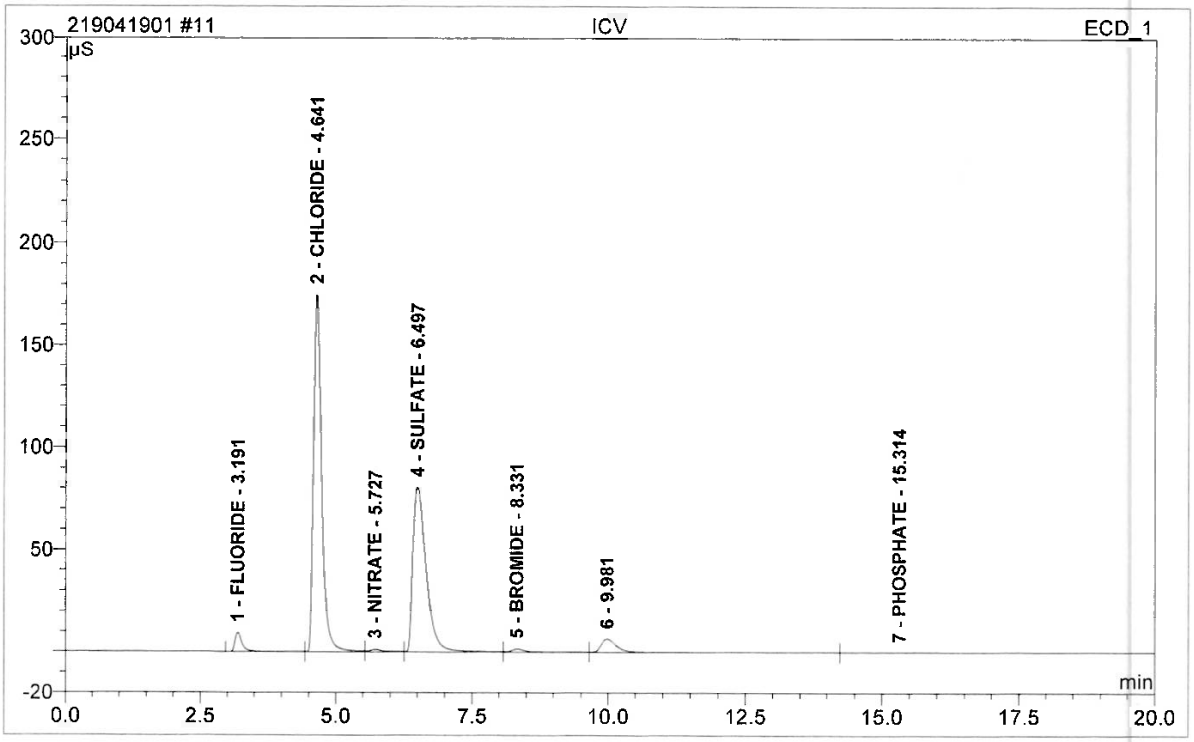


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.18	FLUORIDE	Lin	8	99.9936	0.0000	0.4652	0.0000
2	4.60	CHLORIDE	Lin	8	99.9994	0.0000	0.2977	0.0000
3	5.70	NITRATE	Lin	8	99.4303	0.0000	0.6599	0.0000
4	6.24	SULFATE	Lin	8	99.9990	0.0000	0.2203	0.0000
5	8.29	BROMIDE	Lin	8	99.9436	0.0000	0.1239	0.0000
6	9.93	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	14.12	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Average:					99.8732	0.0000	0.3534	0.0000

anions/Calibration(Curr.Peak)

11 ICV

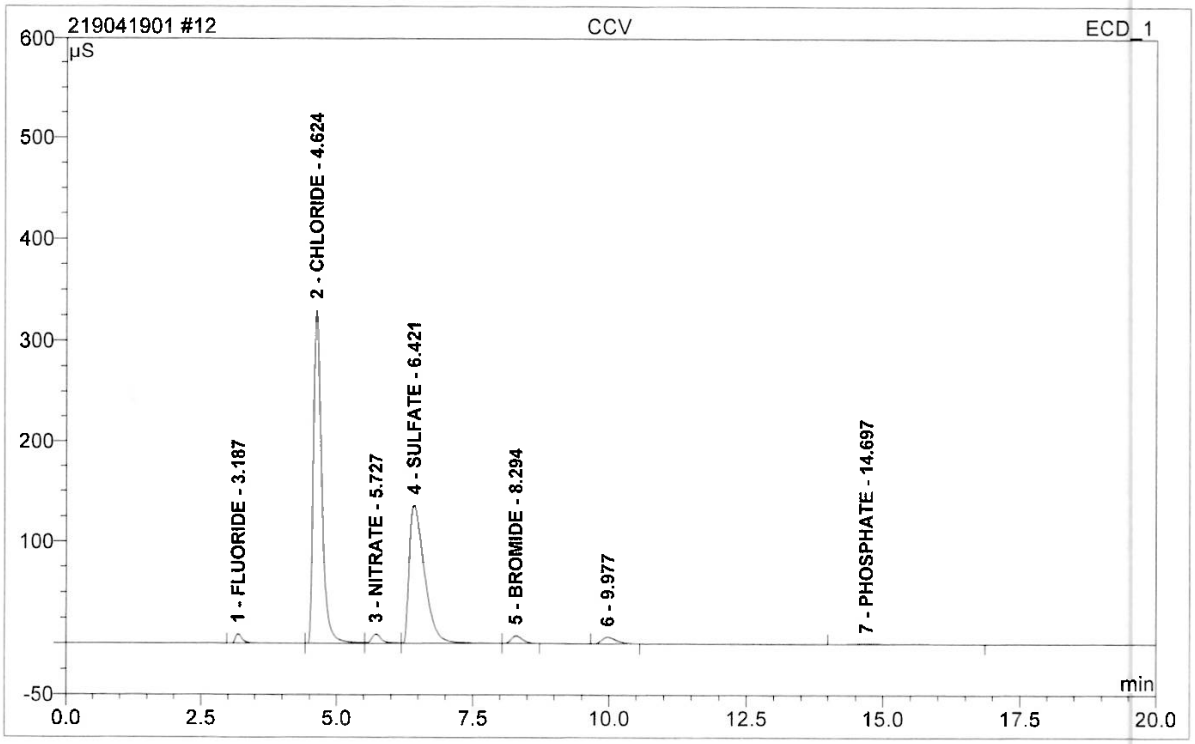
Sample Name:	**ICV**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 9:49**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	9.407	1.496	2.57	3.216	BM
2	4.64	CHLORIDE	174.871	30.440	52.19	102.249	M
3	5.73	NITRATE	1.261	0.380	0.65	0.576	M
4	6.50	SULFATE	80.682	22.873	39.21	103.812	M
5	8.33	BROMIDE	1.547	0.558	0.96	4.504	M
6	9.98	n.a.	6.587	2.374	4.07	n.a.	M
7	15.31	PHOSPHATE	0.067	0.205	0.35	1.110	MB
Total:			274.422	58.327	100.00	215.467	

12 CCV

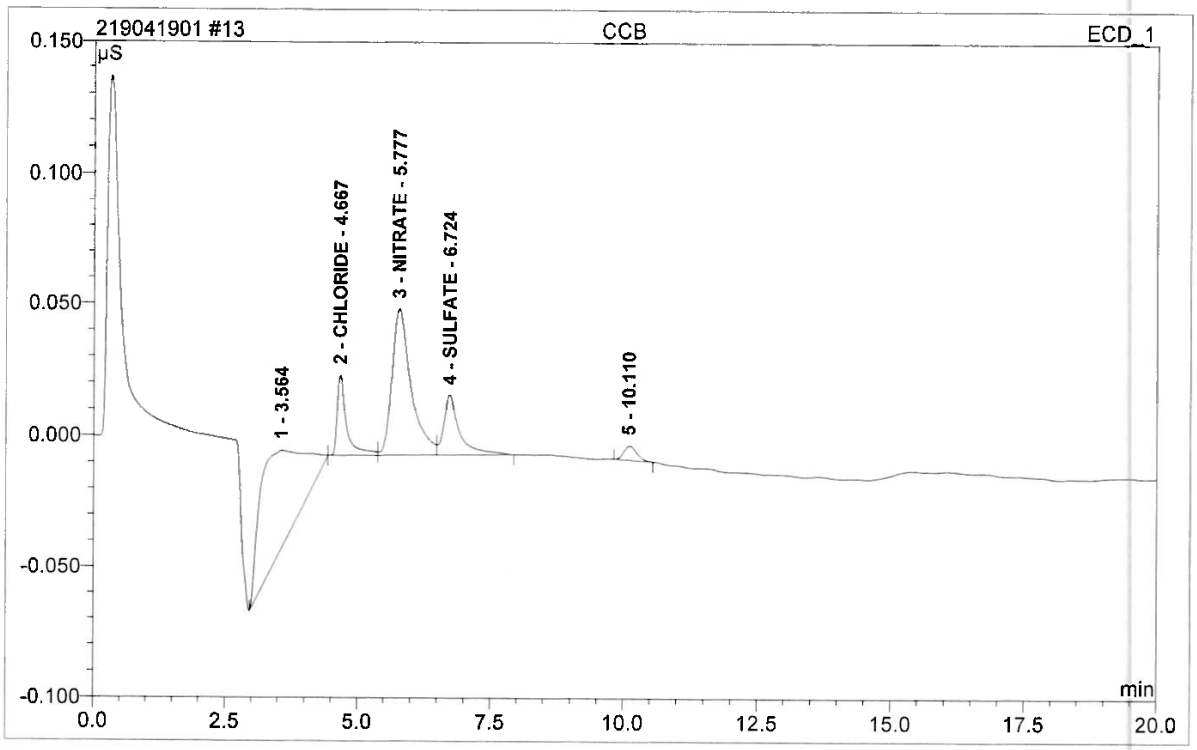
Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 10:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	9.182	1.410	1.28	3.030	BMB
2	4.62	CHLORIDE	329.993	58.913	53.29	197.887	bM
3	5.73	NITRATE	9.344	1.955	1.77	2.963	M
4	6.42	SULFATE	136.088	43.946	39.75	199.459	M
5	8.29	BROMIDE	7.553	1.782	1.61	14.383	MB
6	9.98	n.a.	6.551	2.013	1.82	n.a.	BMB
7	14.70	PHOSPHATE	0.520	0.529	0.48	2.857	BMB
Total:			499.232	110.548	100.00	420.578	

13 CCB

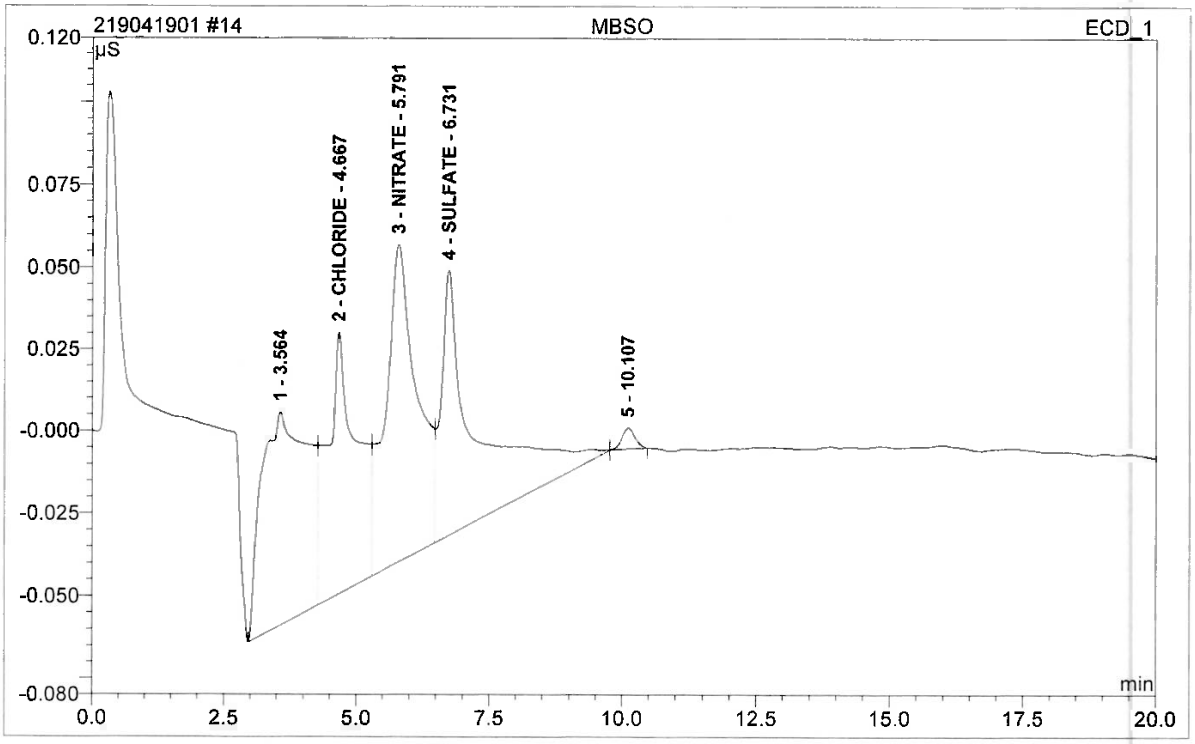
Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 10:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.56	n.a.	0.037	0.036	48.38	n.a.	BMB
2	4.67	CHLORIDE	0.030	0.006	8.39	0.021	bM
3	5.78	NITRATE	0.055	0.023	30.76	0.035	M
4	6.72	SULFATE	0.022	0.008	10.44	0.035	MB
5	10.11	n.a.	0.005	0.002	2.03	n.a.	BMB
Total:			0.151	0.075	100.00	0.091	

14 MBSO

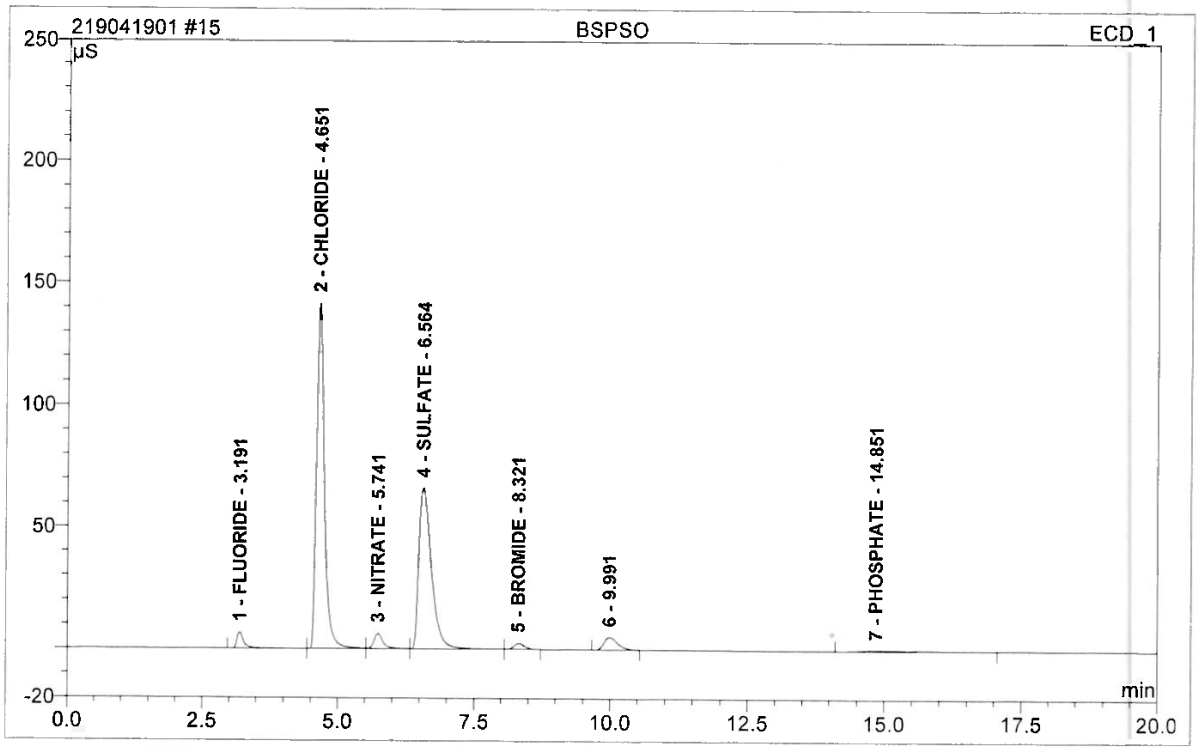
Sample Name:	**MBSO**	*Injection Volume:*	**20.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 11:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.56	n.a.	0.064	0.064	26.14	n.a.	BM
2	4.67	CHLORIDE	0.080	0.051	20.67	0.171	M
3	5.79	NITRATE	0.097	0.066	26.89	0.100	M
4	6.73	SULFATE	0.081	0.063	25.57	0.286	MB
5	10.11	n.a.	0.006	0.002	0.73	n.a.	bMB
Total:			0.328	0.246	100.00	0.557	

15 BSPSO

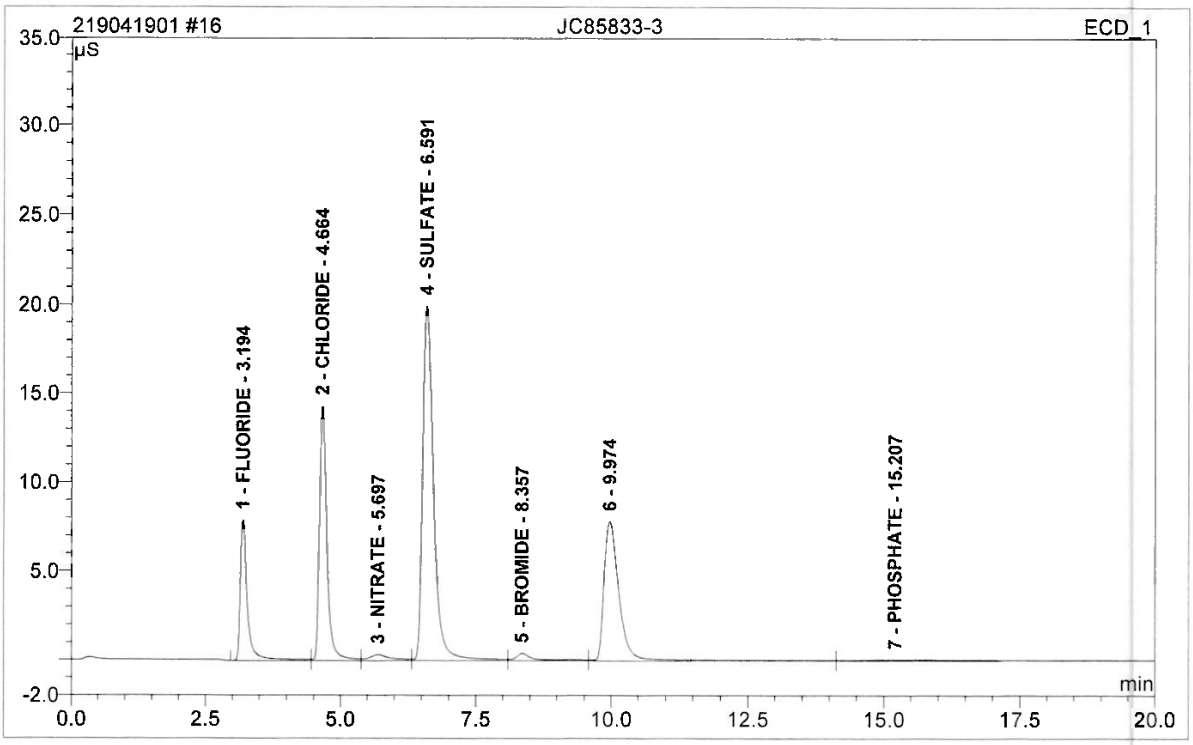
Sample Name:	**BSPSO**	*Injection Volume:*	**20.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 11:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	6.544	0.991	2.14	2.129	BM
2	4.65	CHLORIDE	141.639	23.909	51.67	80.310	M
3	5.74	NITRATE	6.264	1.261	2.72	1.911	M
4	6.56	SULFATE	66.413	17.662	38.17	80.160	M
5	8.32	BROMIDE	2.429	0.545	1.18	4.395	MB
6	9.99	n.a.	5.124	1.493	3.23	n.a.	BMB
7	14.85	PHOSPHATE	0.402	0.416	0.90	2.249	BMB
Total:			228.816	46.276	100.00	171.155	

16 JC85833-3

Sample Name:	**JC85833-3**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**3.0000**
Recording Time:	**4/19/2019 12:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



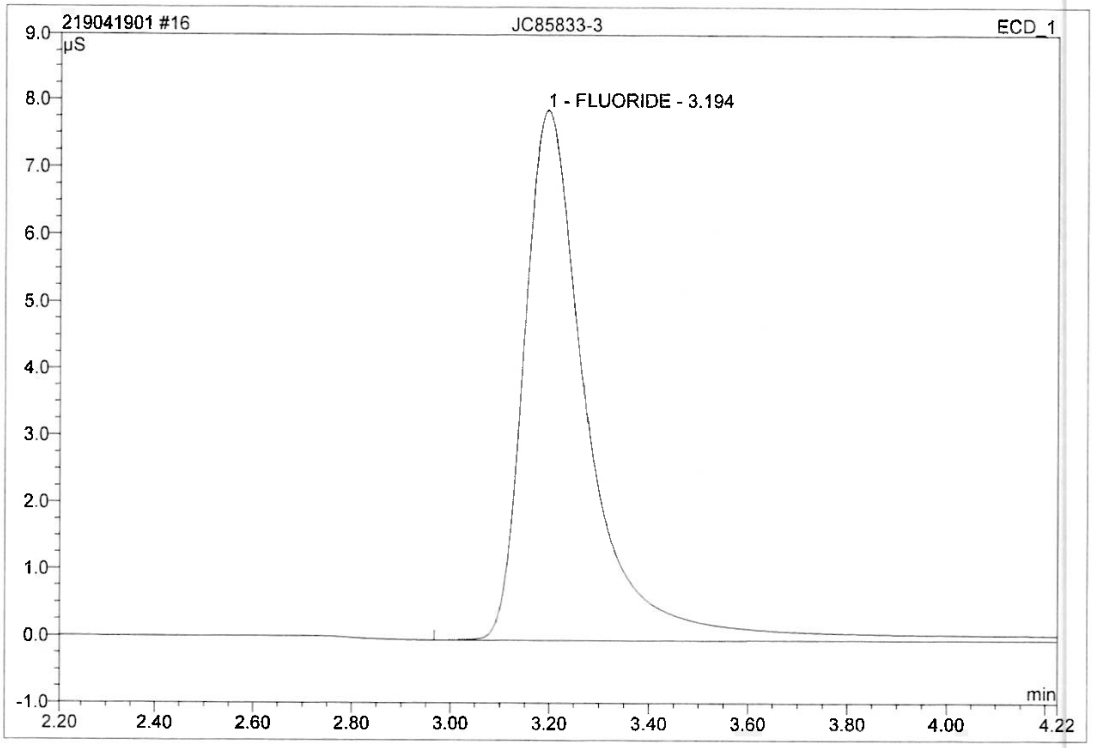
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	7.909	1.224	10.80	7.895	BM
2	4.66	CHLORIDE	14.327	2.315	20.42	23.326	M
3	5.70	NITRATE	0.342	0.160	1.41	0.727	M
4	6.59	SULFATE	19.988	4.711	41.56	64.140	M
5	8.36	BROMIDE	0.414	0.170	1.50	4.104	M
6	9.97	n.a.	7.831	2.596	22.90	n.a.	M
7	15.21	PHOSPHATE	0.057	0.159	1.40	2.578	MB
Total:			50.866	11.334	100.00	102.770	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

4/20/2019 9:32 AM

16 JC85833-3

Sample Name:	**JC85833-3**	*Injection Volume:*	**20.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**3.0000**
Recording Time:	**4/19/2019 12:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



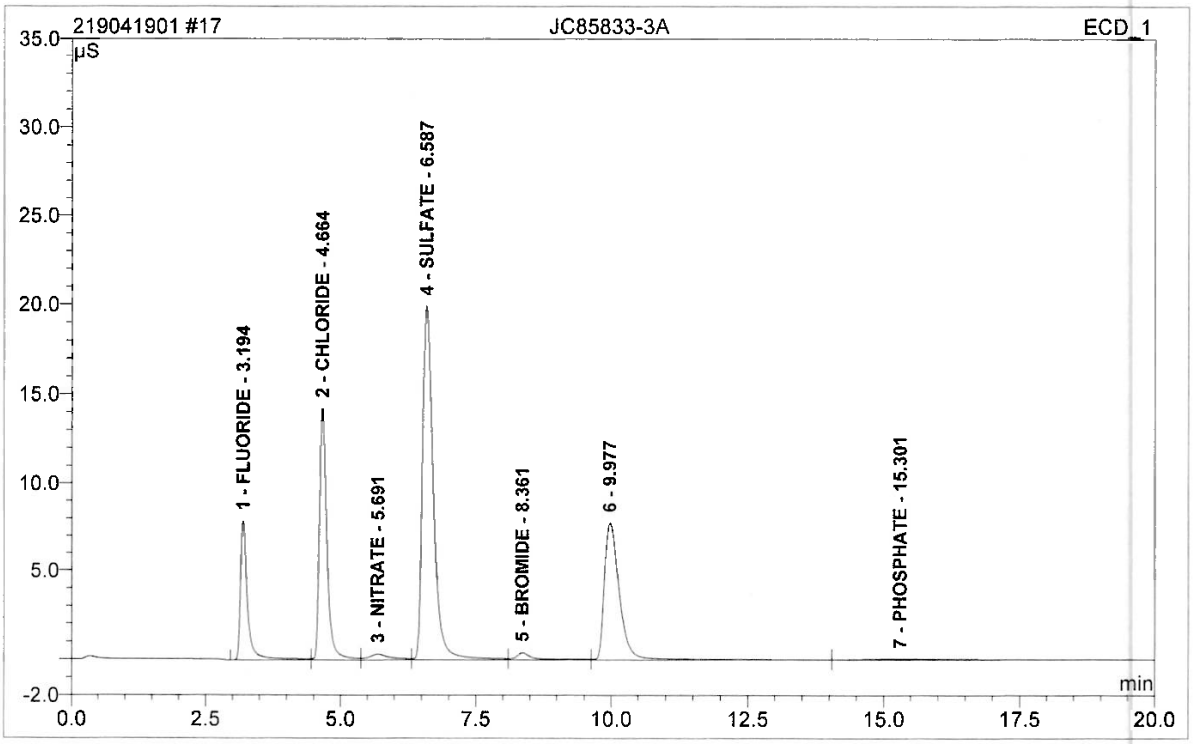
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	7.909	1.224	10.80	7.895	BM
2	4.66	CHLORIDE	14.327	2.315	20.42	23.326	M
3	5.70	NITRATE	0.342	0.160	1.41	0.727	M
4	6.59	SULFATE	19.988	4.711	41.56	64.140	M
5	8.36	BROMIDE	0.414	0.170	1.50	4.104	M
6	9.97	n.a.	7.831	2.596	22.90	n.a.	M
7	15.21	PHOSPHATE	0.057	0.159	1.40	2.578	MB
Total:			50.866	11.334	100.00	102.770	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

17 JC85833-3A

Sample Name:	**JC85833-3A**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**3.0000**
Recording Time:	**4/19/2019 12:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



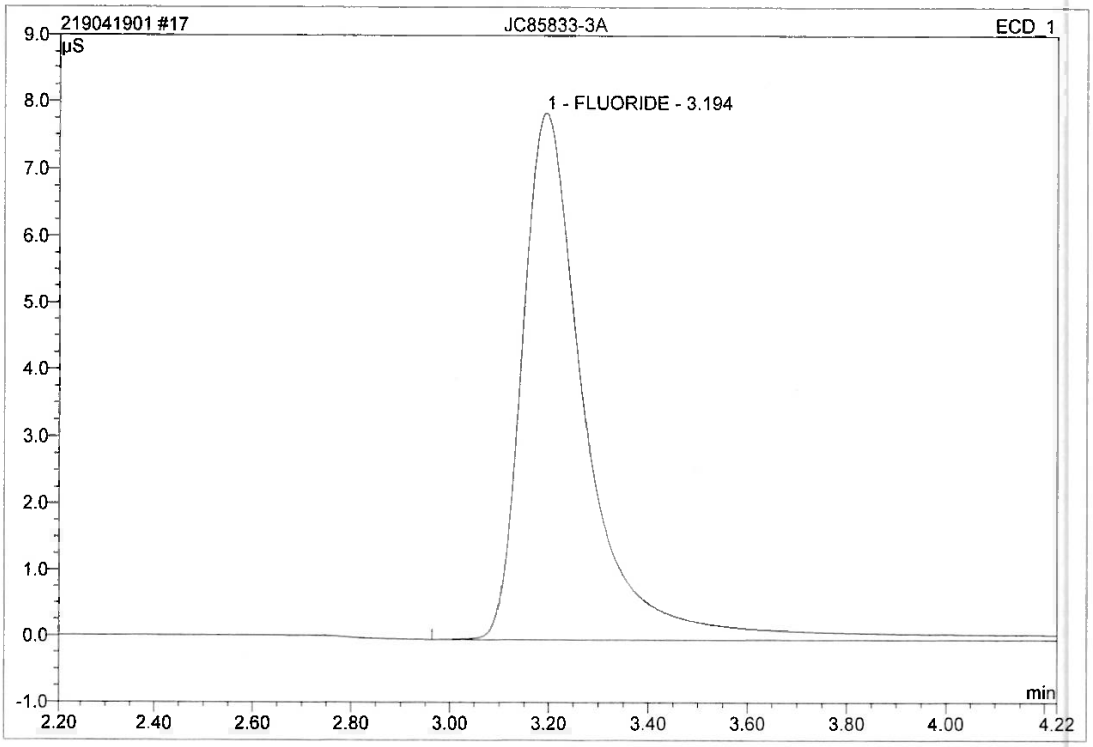
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	7.890	1.219	10.76	7.858	BM
2	4.66	CHLORIDE	14.235	2.308	20.39	23.261	M
3	5.69	NITRATE	0.340	0.159	1.41	0.724	M
4	6.59	SULFATE	19.939	4.696	41.47	63.945	M
5	8.36	BROMIDE	0.412	0.173	1.52	4.178	M
6	9.98	n.a.	7.788	2.586	22.83	n.a.	M
7	15.30	PHOSPHATE	0.059	0.183	1.61	2.962	MB
Total:			50.664	11.323	100.00	102.929	

Operator:chemistry Timebase:ACCUTEST_SYS#2 Sequence:219041901

4/20/2019 9:32 AM

17 JC85833-3A

Sample Name:	**JC85833-3A**	*Injection Volume:*	**20.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**3.0000**
Recording Time:	**4/19/2019 12:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



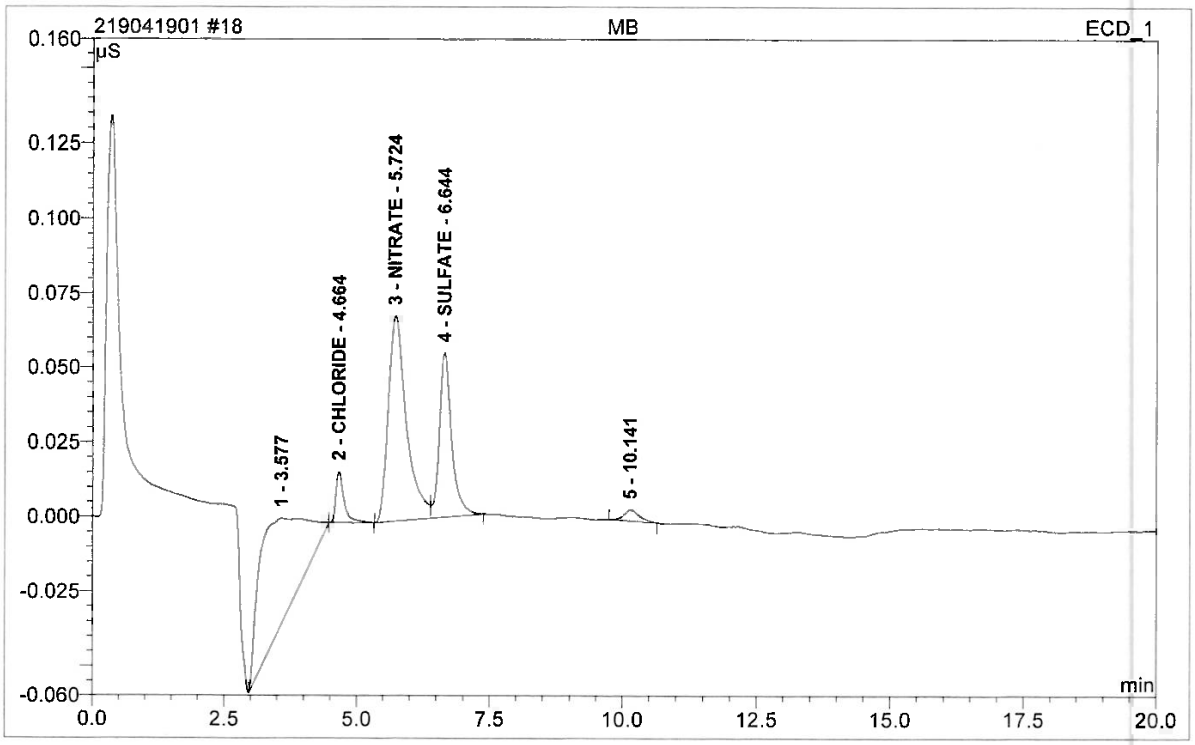
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	7.890	1.219	10.76	7.858	BM
2	4.66	CHLORIDE	14.235	2.308	20.39	23.261	M
3	5.69	NITRATE	0.340	0.159	1.41	0.724	M
4	6.59	SULFATE	19.939	4.696	41.47	63.945	M
5	8.36	BROMIDE	0.412	0.173	1.52	4.178	M
6	9.98	n.a.	7.788	2.586	22.83	n.a.	M
7	15.30	PHOSPHATE	0.059	0.183	1.61	2.962	MB
Total:			50.664	11.323	100.00	102.929	

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

18 MB

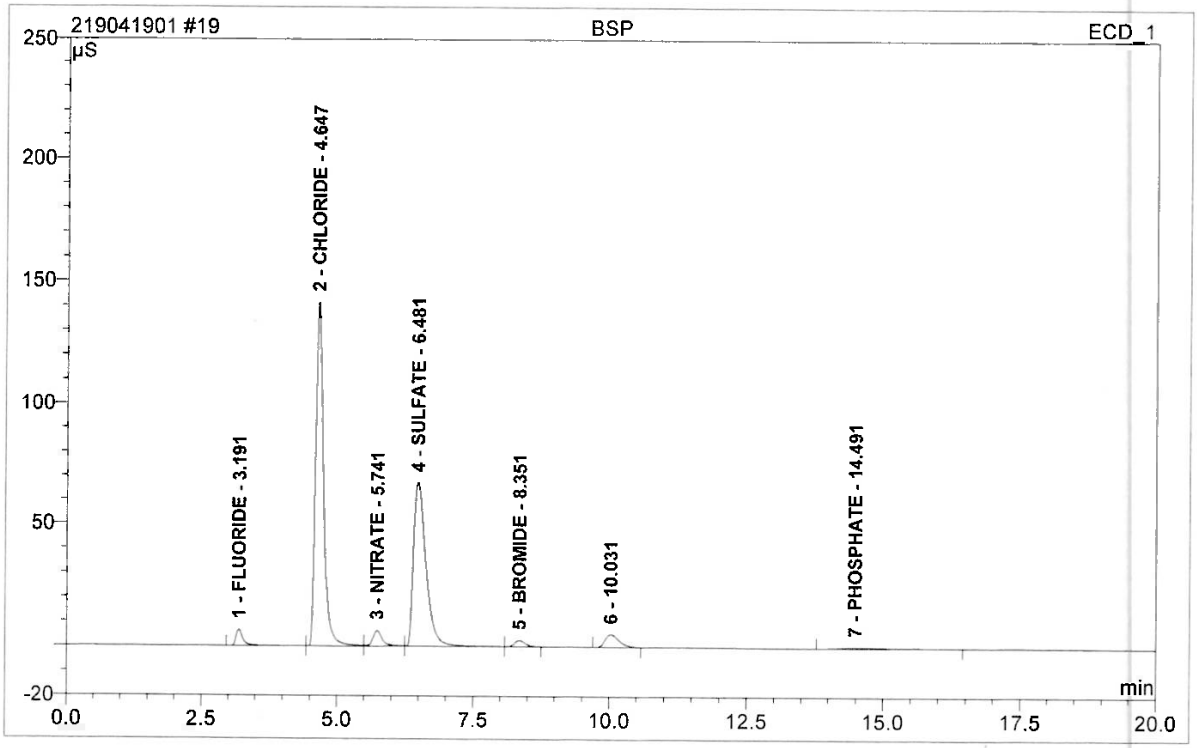
Sample Name:	**MB**	*Injection Volume:*	**20.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 12:49**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.58	n.a.	0.035	0.035	43.39	n.a.	BMB
2	4.66	CHLORIDE	0.017	0.003	3.75	0.010	bMB
3	5.72	NITRATE	0.069	0.027	33.24	0.041	BM
4	6.64	SULFATE	0.055	0.015	18.04	0.067	MB
5	10.14	n.a.	0.004	0.001	1.57	n.a.	BMB
Total:			0.180	0.082	100.00	0.118	

19 BSP

Sample Name:	**BSP**	*Injection Volume:*	**20.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 13:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

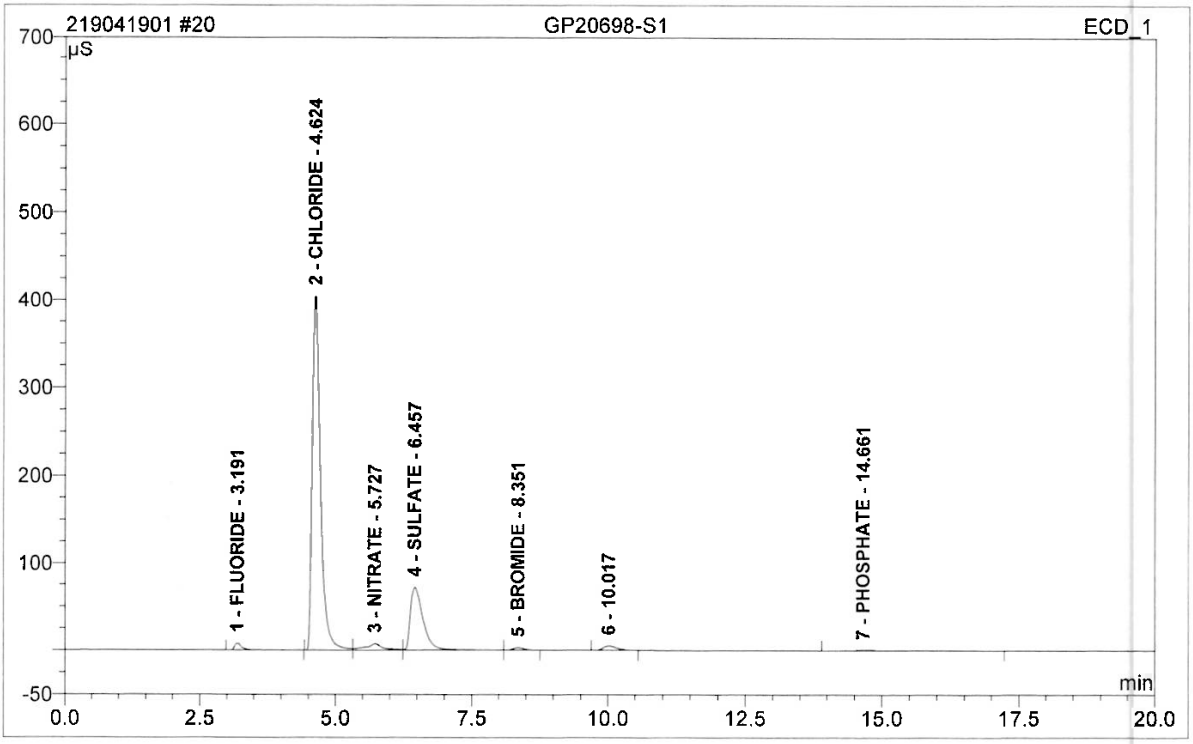


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	6.555	0.988	2.13	2.123	BM
2	4.65	CHLORIDE	141.304	23.930	51.63	80.380	M
3	5.74	NITRATE	6.245	1.263	2.73	1.914	M
4	6.48	SULFATE	67.402	17.709	38.21	80.375	M
5	8.35	BROMIDE	2.409	0.541	1.17	4.369	MB
6	10.03	n.a.	5.078	1.494	3.22	n.a.	BMB
7	14.49	PHOSPHATE	0.460	0.423	0.91	2.284	BMB
Total:			229.452	46.349	100.00	171.447	

20 GP20698-S1

JC86397-1

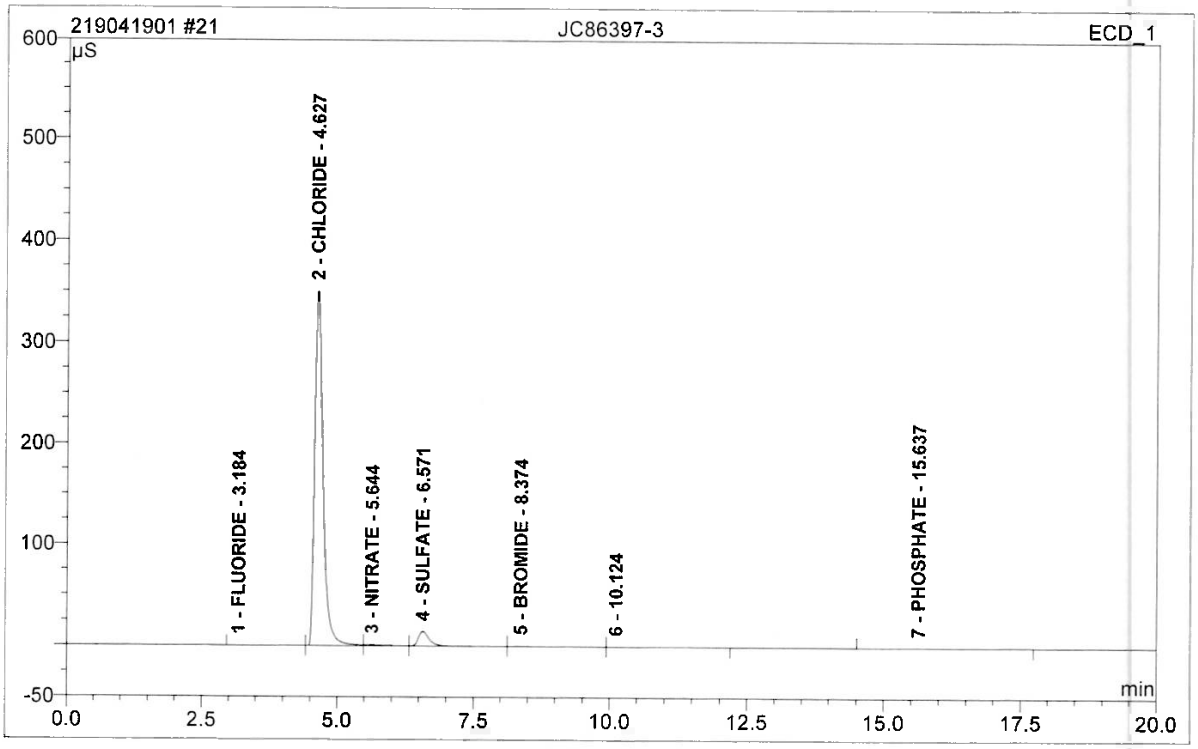
Sample Name:	**GP20698-S1**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**2.0000**
Recording Time:	**4/19/2019 13:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	7.920	1.199	1.23	5.154	BMB
2	4.62	CHLORIDE	404.204	71.786	73.69	482.255	BM
3	5.73	NITRATE	7.341	2.585	2.65	7.834	M
4	6.46	SULFATE	71.766	19.244	19.75	174.682	M
5	8.35	BROMIDE	2.639	0.605	0.62	9.769	MB
6	10.02	n.a.	5.148	1.475	1.51	n.a.	BMB
7	14.66	PHOSPHATE	0.451	0.523	0.54	5.657	BMB
Total:			499.469	97.418	100.00	685.352	

21 JC86397-3

Sample Name:	**JC86397-3**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**10.0000**
Recording Time:	**4/19/2019 14:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



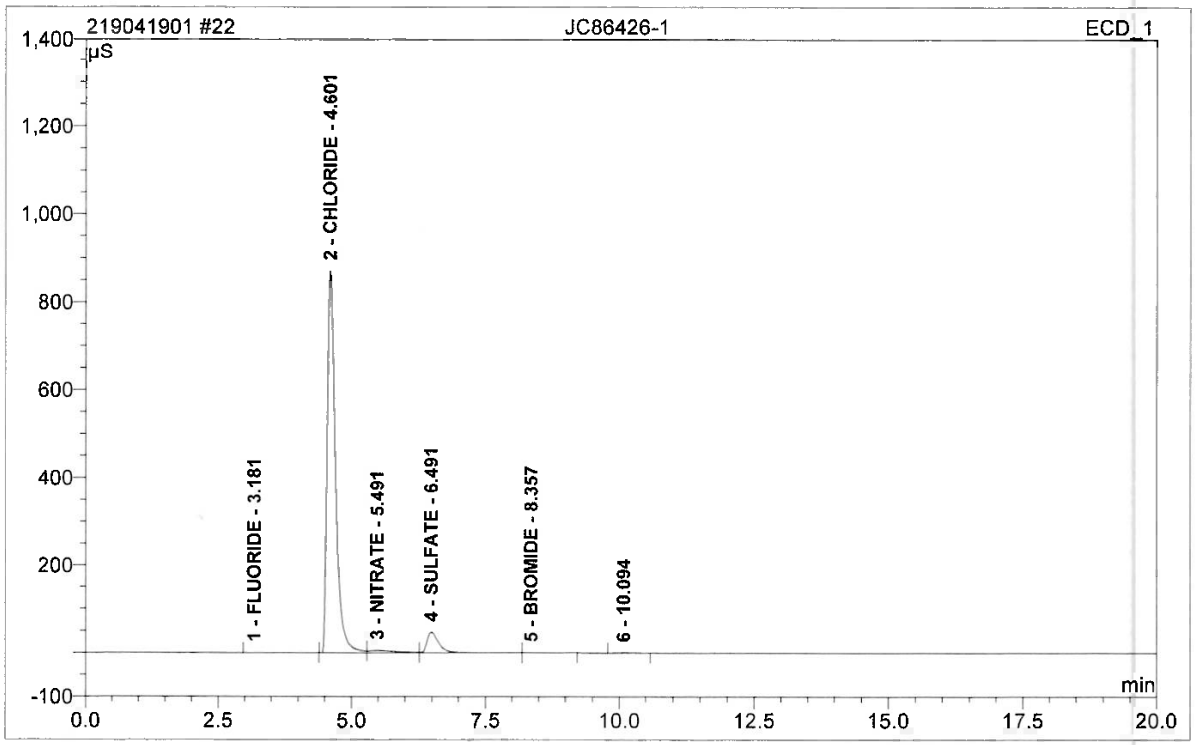
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.191	0.059	0.09	1.274	BMB
2	4.63	CHLORIDE	350.252	62.711	93.46	2106.448	bM
3	5.64	NITRATE	1.060	0.551	0.82	8.345	M
4	6.57	SULFATE	14.132	3.518	5.24	159.658	M
5	8.37	BROMIDE	0.378	0.198	0.30	16.005	M
6	10.12	n.a.	0.045	0.045	0.07	n.a.	MB
7	15.64	PHOSPHATE	0.008	0.015	0.02	0.833	BMB
Total:			366.068	67.098	100.00	2292.563	

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

22 JC86426-1

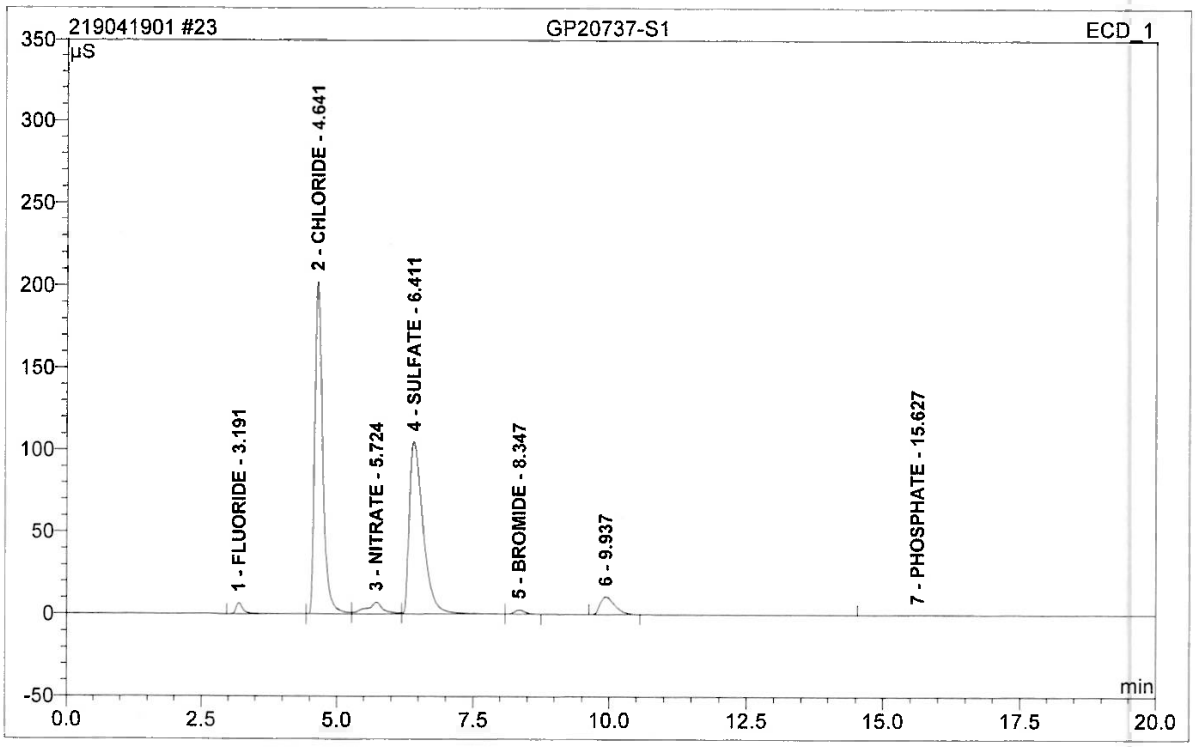
Sample Name:	**JC86426-1**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 14:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.130	0.041	0.02	0.088	BMB
2	4.60	CHLORIDE	869.745	158.033	90.95	530.830	BM
3	5.49	NITRATE	5.449	3.108	1.79	4.710	M
4	6.49	SULFATE	46.604	12.228	7.04	55.497	M
5	8.36	BROMIDE	0.262	0.118	0.07	0.949	MB
6	10.09	n.a.	0.856	0.234	0.13	n.a.	BMB
Total:			923.046	173.761	100.00	592.074	

23 GP20737-S1

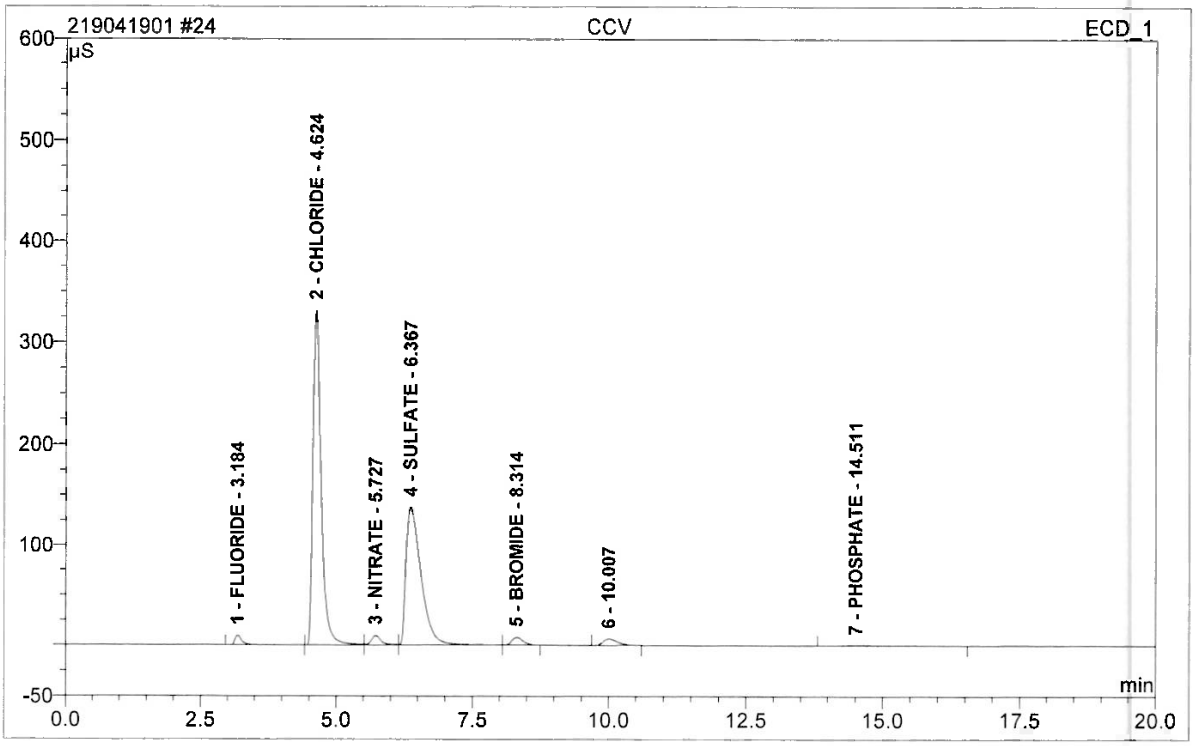
Sample Name:	**GP20737-S1**	*Injection Volume:*	**20.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 14:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	6.624	1.002	1.36	2.153	BMB
2	4.64	CHLORIDE	202.132	34.632	47.18	116.329	bM
3	5.72	NITRATE	7.132	2.533	3.45	3.839	M
4	6.41	SULFATE	104.804	30.861	42.04	140.067	M
5	8.35	BROMIDE	2.485	0.571	0.78	4.607	MB
6	9.94	n.a.	10.654	3.352	4.57	n.a.	BMB
7	15.63	PHOSPHATE	0.203	0.454	0.62	2.454	BMB
Total:			334.035	73.406	100.00	269.450	

24 CCV

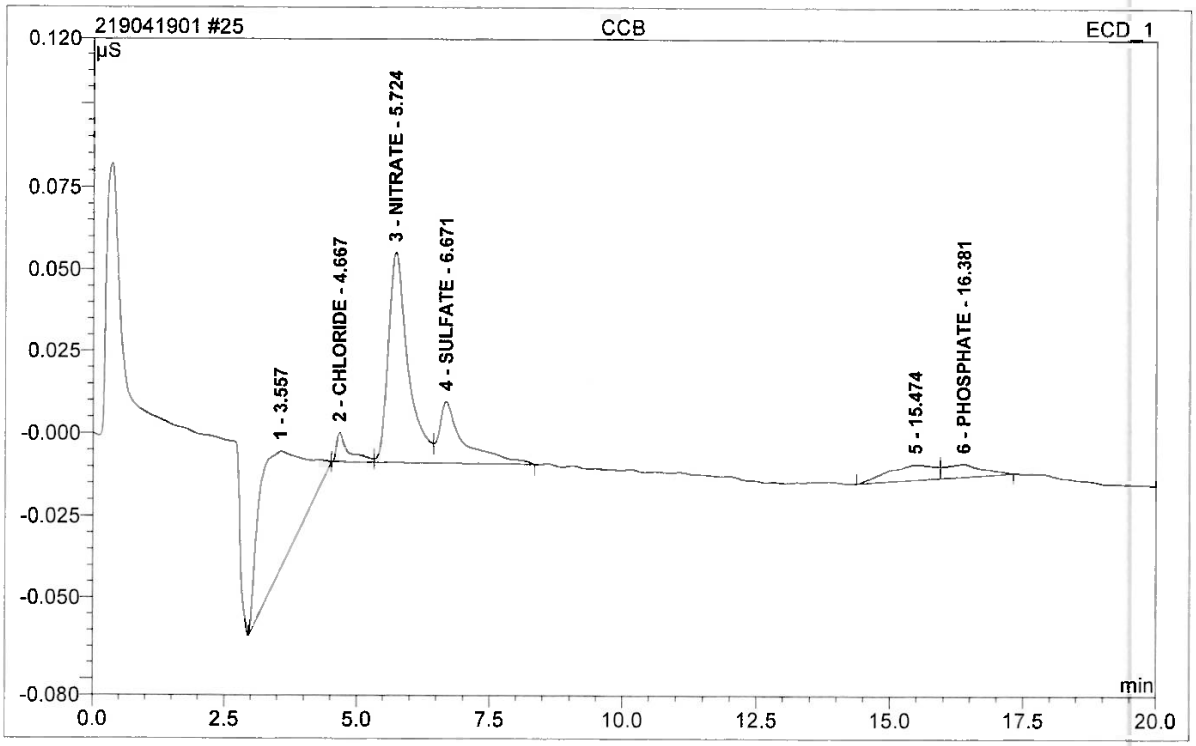
Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 15:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	9.401	1.423	1.29	3.060	BMB
2	4.62	CHLORIDE	330.880	58.893	53.38	197.821	BM
3	5.73	NITRATE	9.390	1.944	1.76	2.946	M
4	6.37	SULFATE	137.833	43.820	39.72	198.884	M
5	8.31	BROMIDE	7.534	1.772	1.61	14.299	MB
6	10.01	n.a.	6.354	1.946	1.76	n.a.	BMB
7	14.51	PHOSPHATE	0.566	0.532	0.48	2.876	BMB
Total:			501.959	110.330	100.00	419.885	

25 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 15:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

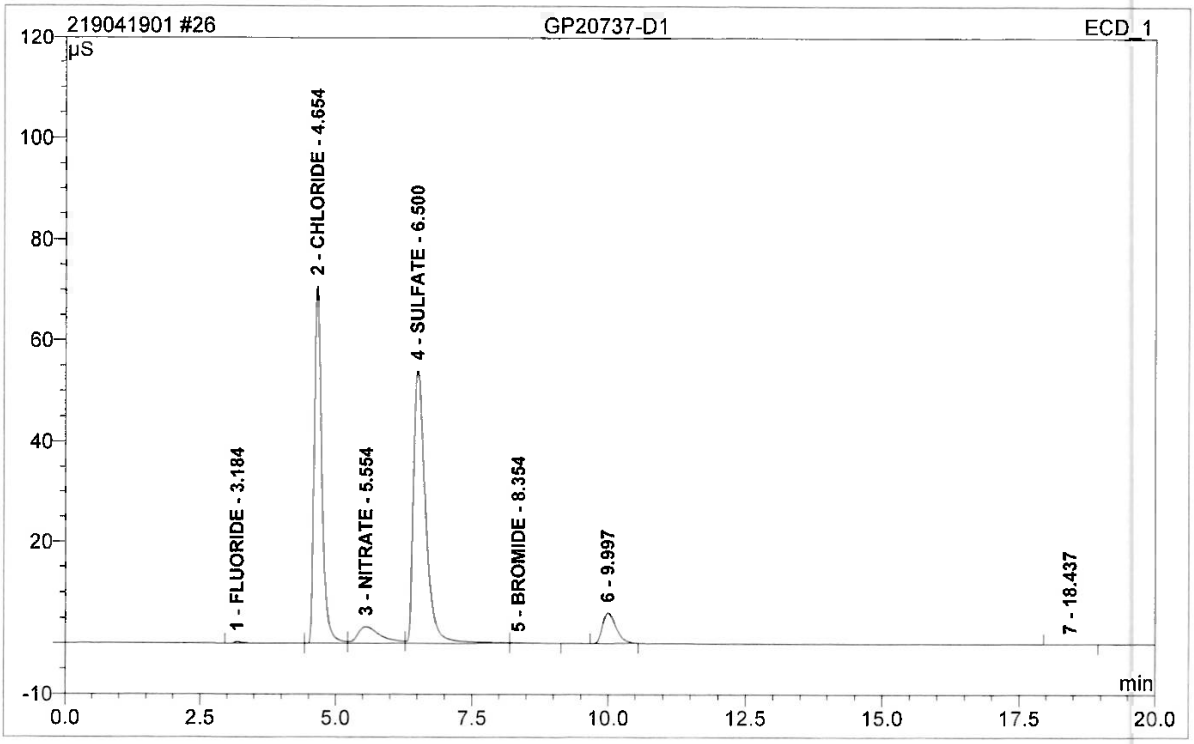


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.56	n.a.	0.036	0.036	42.66	n.a.	BMB
2	4.67	CHLORIDE	0.009	0.002	2.85	0.008	bM
3	5.72	NITRATE	0.064	0.027	32.92	0.042	M
4	6.67	SULFATE	0.019	0.010	12.07	0.046	MB
5	15.47	n.a.	0.005	0.005	5.69	n.a.	BM
6	16.38	PHOSPHATE	0.004	0.003	3.80	0.017	MB
Total:			0.135	0.083	100.00	0.113	

26 GP20737-D1

JC86512-8

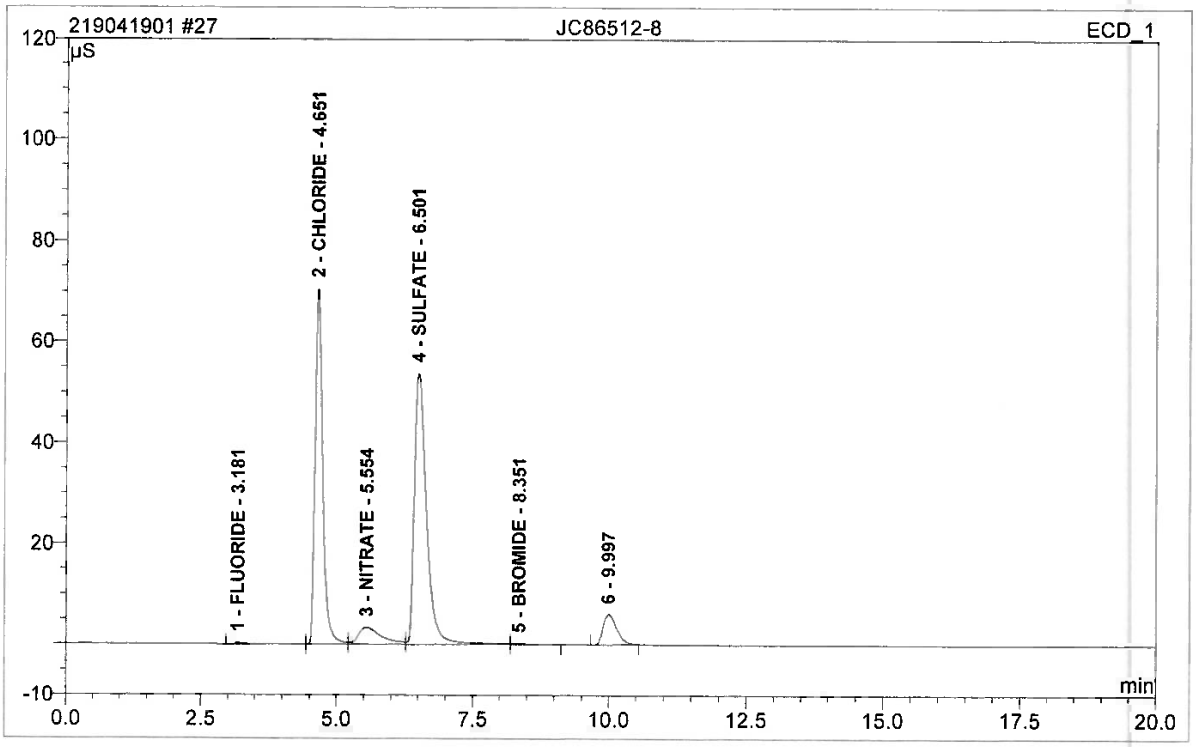
Sample Name:	**GP20737-D1**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 16:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.316	0.092	0.32	0.197	BM
2	4.65	CHLORIDE	70.758	11.557	39.91	38.821	M
3	5.55	NITRATE	3.307	1.615	5.58	2.447	M
4	6.50	SULFATE	53.998	13.900	48.00	63.085	M
5	8.35	BROMIDE	0.119	0.049	0.17	0.394	MB
6	10.00	n.a.	6.003	1.744	6.02	n.a.	BMB
7	18.44	n.a.	0.002	0.001	0.00	n.a.	BMB
Total:			134.503	28.957	100.00	104.944	

27 JC86512-8

Sample Name:	**JC86512-8**	*Injection Volume:*	**20.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 16:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

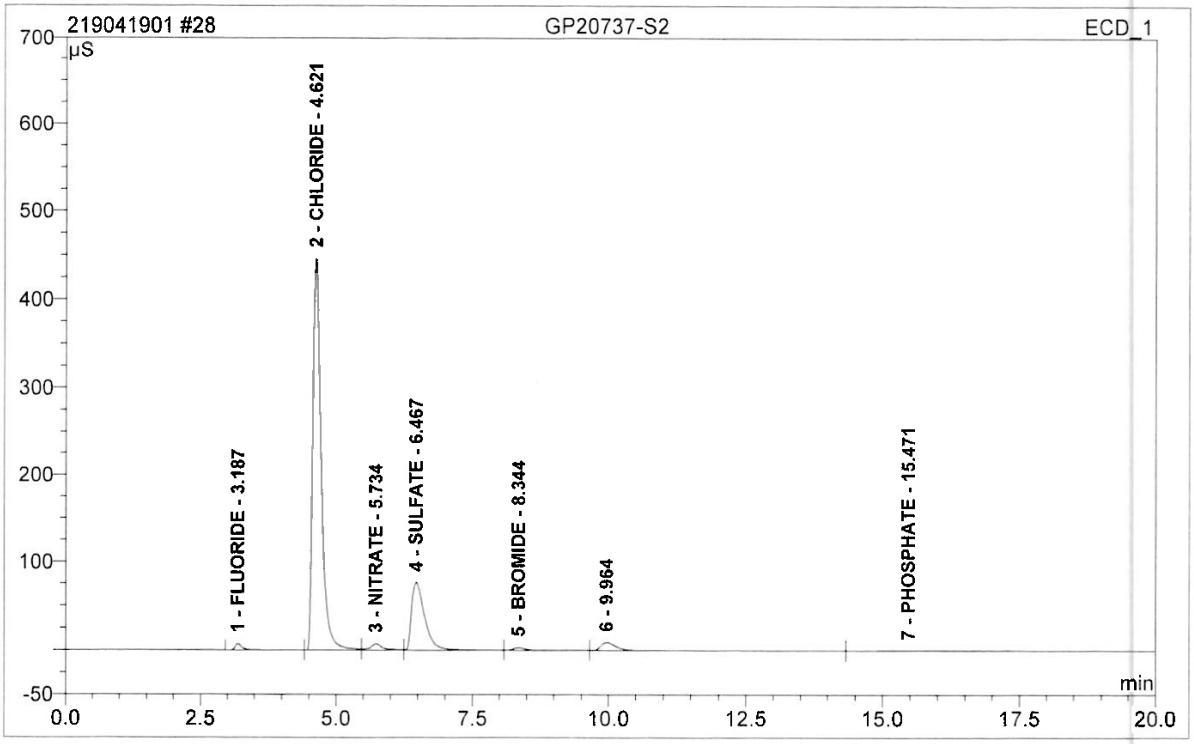


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.311	0.075	0.26	0.161	BMB
2	4.65	CHLORIDE	70.538	11.503	39.91	38.640	bM
3	5.55	NITRATE	3.289	1.602	5.56	2.428	M
4	6.50	SULFATE	53.800	13.857	48.08	62.893	M
5	8.35	BROMIDE	0.116	0.047	0.16	0.377	MB
6	10.00	n.a.	5.998	1.737	6.03	n.a.	BMB
Total:			134.052	28.821	100.00	104.498	

28 GP20737-S2

JC86512-10

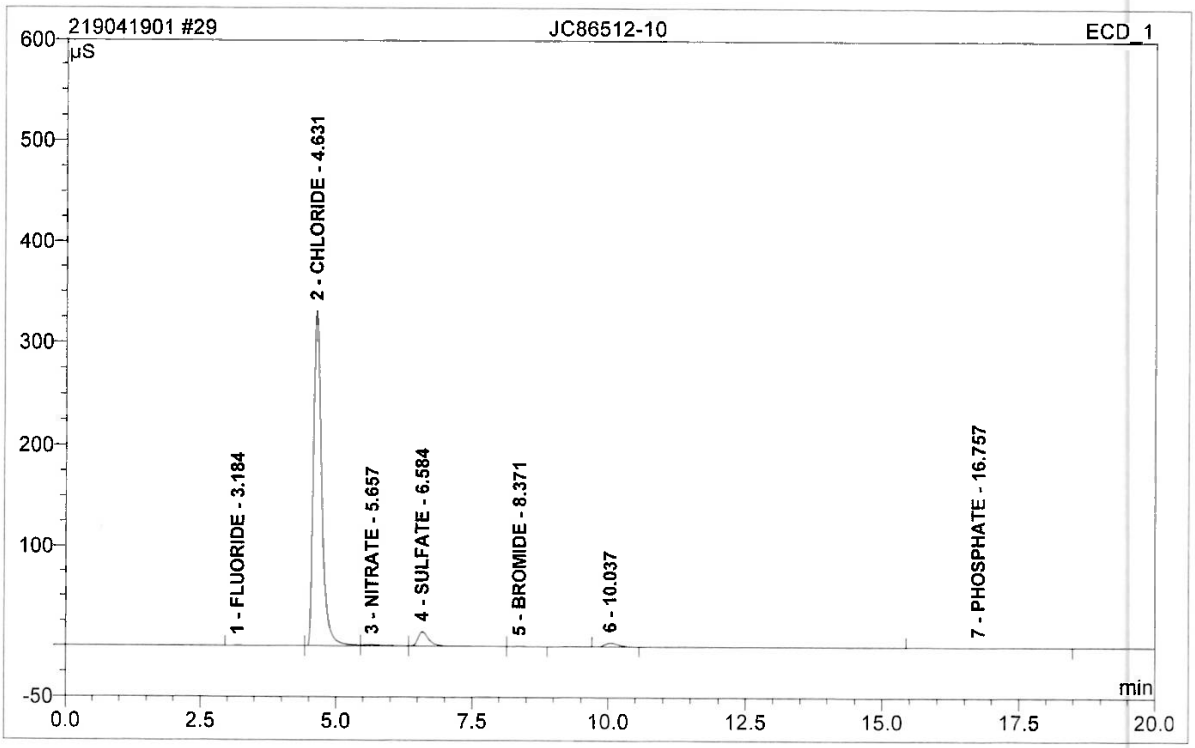
Sample Name:	**GP20737-S2**	*Injection Volume:*	**20.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 16:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	6.868	1.075	0.98	2.310	BM
2	4.62	CHLORIDE	446.054	80.851	73.68	271.575	M
3	5.73	NITRATE	7.109	1.886	1.72	2.857	M
4	6.47	SULFATE	76.599	21.374	19.48	97.011	M
5	8.34	BROMIDE	2.914	0.918	0.84	7.407	M
6	9.96	n.a.	8.969	3.120	2.84	n.a.	M
7	15.47	PHOSPHATE	0.218	0.503	0.46	2.719	MB
Total:			548.730	109.726	100.00	383.881	

29 JC86512-10

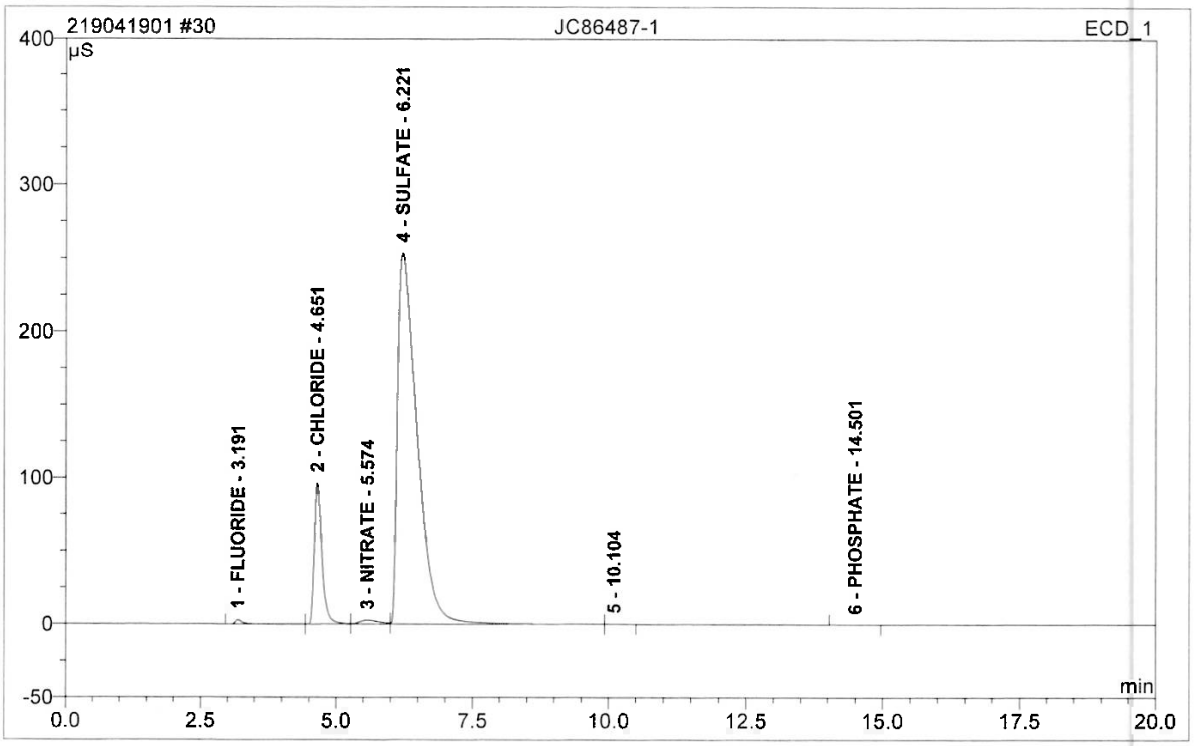
Sample Name:	**JC86512-10**	*Injection Volume:*	**20.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 17:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.500	0.105	0.16	0.226	BMB
2	4.63	CHLORIDE	330.436	59.044	91.56	198.327	bM
3	5.66	NITRATE	1.348	0.675	1.05	1.022	M
4	6.58	SULFATE	14.378	3.502	5.43	15.895	M
5	8.37	BROMIDE	0.207	0.059	0.09	0.475	MB
6	10.04	n.a.	3.860	1.090	1.69	n.a.	BMB
7	16.76	PHOSPHATE	0.006	0.009	0.01	0.050	BMB
Total:			350.734	64.484	100.00	215.996	

30 JC86487-1

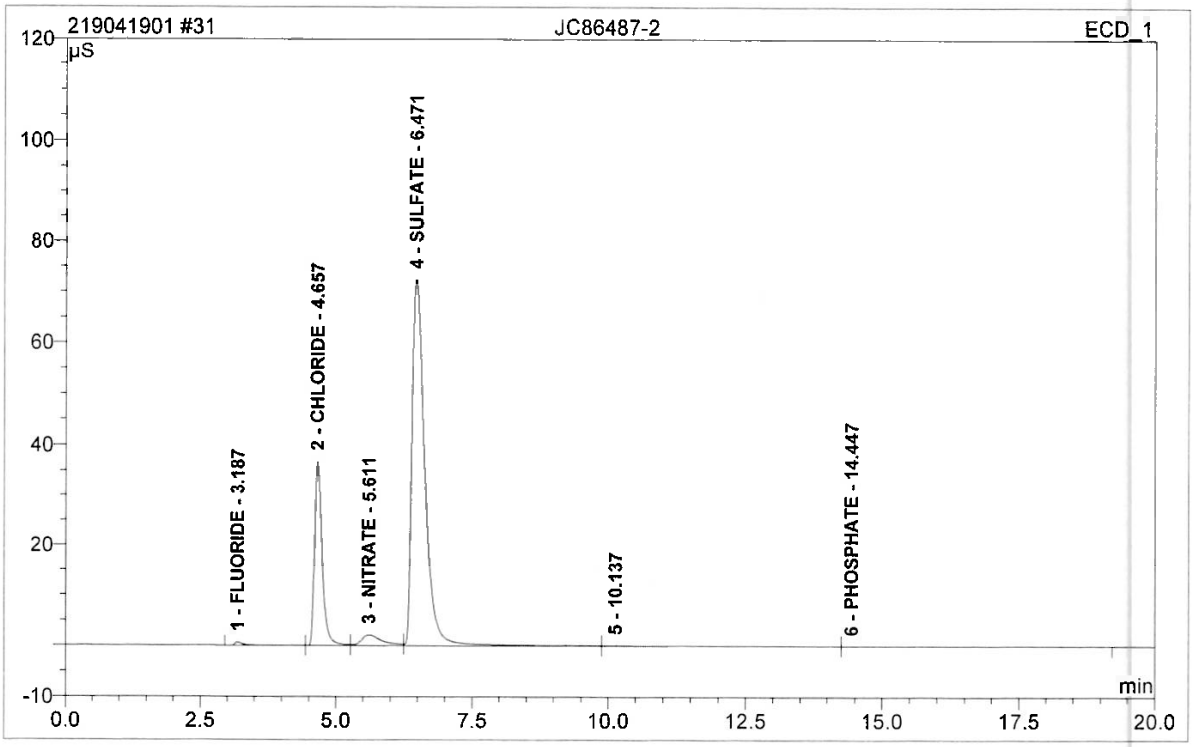
Sample Name:	**JC86487-1**	*Injection Volume:*	**20.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 17:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	2.905	0.469	0.38	1.007	BM
2	4.65	CHLORIDE	96.479	15.848	12.94	53.234	M
3	5.57	NITRATE	2.746	1.158	0.95	1.755	M
4	6.22	SULFATE	253.526	105.011	85.73	476.613	Mb
5	10.10	n.a.	0.018	0.005	0.00	n.a.	bMB
6	14.50	PHOSPHATE	0.015	0.006	0.00	0.031	BMB
Total:			355.690	122.497	100.00	532.641	

31 JC86487-2

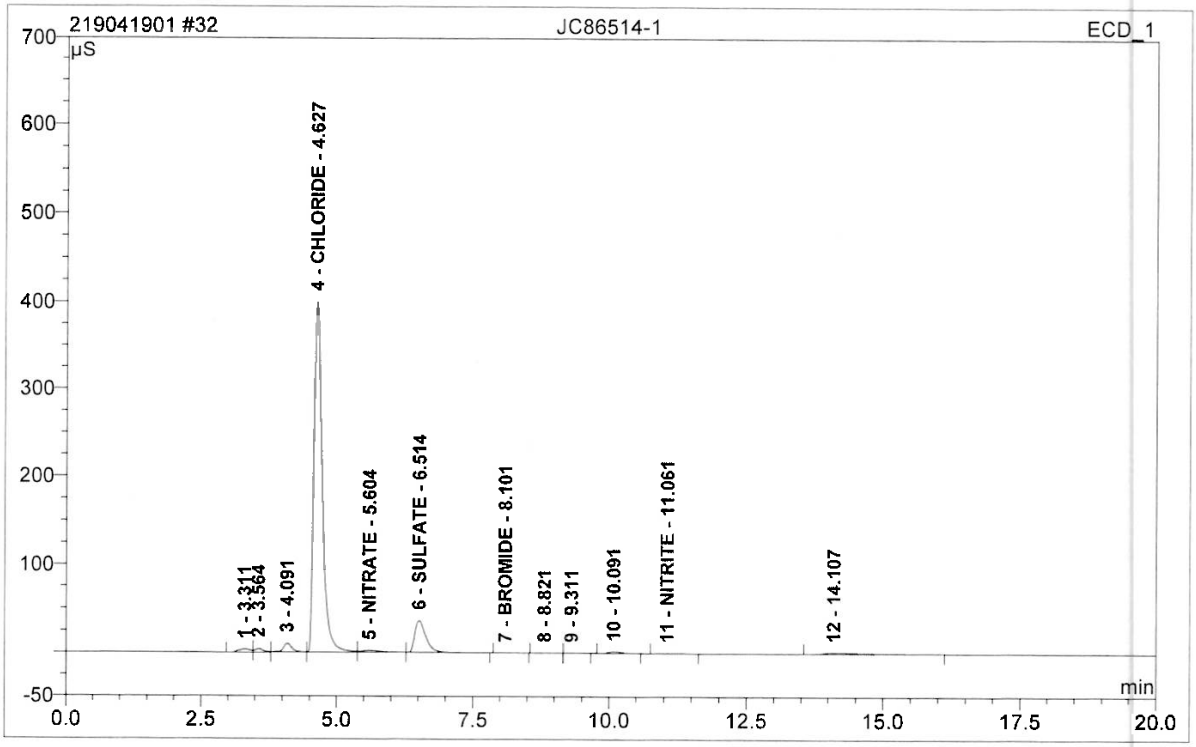
Sample Name:	**JC86487-2**	*Injection Volume:*	**20.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 18:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	0.690	0.179	0.65	0.385	BM
2	4.66	CHLORIDE	36.797	5.979	21.83	20.084	M
3	5.61	NITRATE	2.111	0.937	3.42	1.419	M
4	6.47	SULFATE	72.440	20.022	73.11	90.874	M
5	10.14	n.a.	0.107	0.216	0.79	n.a.	M
6	14.45	PHOSPHATE	0.024	0.052	0.19	0.281	MB
Total:			112.169	27.385	100.00	113.043	

32 JC86514-1

Sample Name:	**JC86514-1**	*Injection Volume:*	**20.0**
Vial Number:	**23**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 18:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**

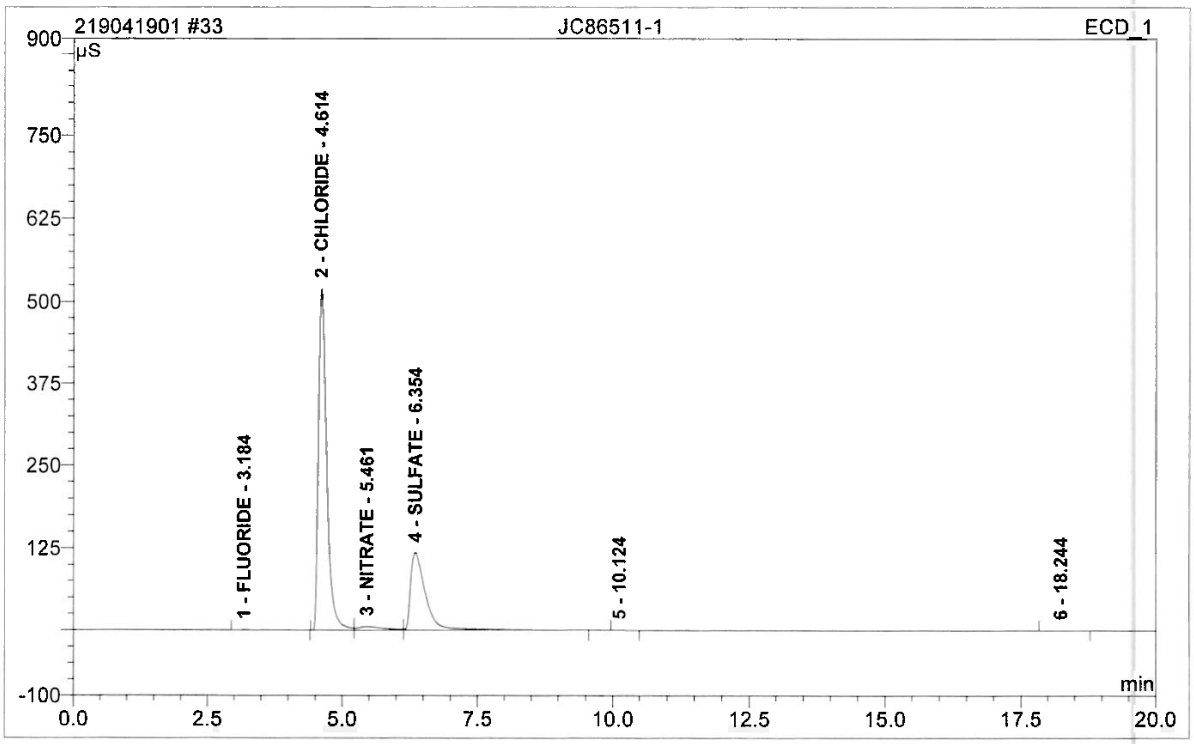


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.31	n.a.	3.479	0.870	1.00	n.a.	BM
2	3.56	n.a.	4.179	0.694	0.80	n.a.	M
3	4.09	n.a.	10.066	1.903	2.19	n.a.	M
4	4.63	CHLORIDE	399.935	71.749	82.74	241.002	M
5	5.60	NITRATE	2.059	0.900	1.04	1.364	Mb
6	6.51	SULFATE	36.029	8.494	9.80	38.552	bMB
7	8.10	BROMIDE	0.047	0.015	0.02	0.118	BMB
8	8.82	n.a.	0.107	0.029	0.03	n.a.	BMB
9	9.31	n.a.	0.023	0.006	0.01	n.a.	BMB
10	10.09	n.a.	1.937	0.532	0.61	n.a.	BMB
11	11.06	NITRITE	0.352	0.109	0.13	n.a.	BMB

12	14.11	n.a.	1.621	1.417	1.63	n.a.	BMB
Total:			459.835	86.717	100.00	281.035	

33 JC86511-1

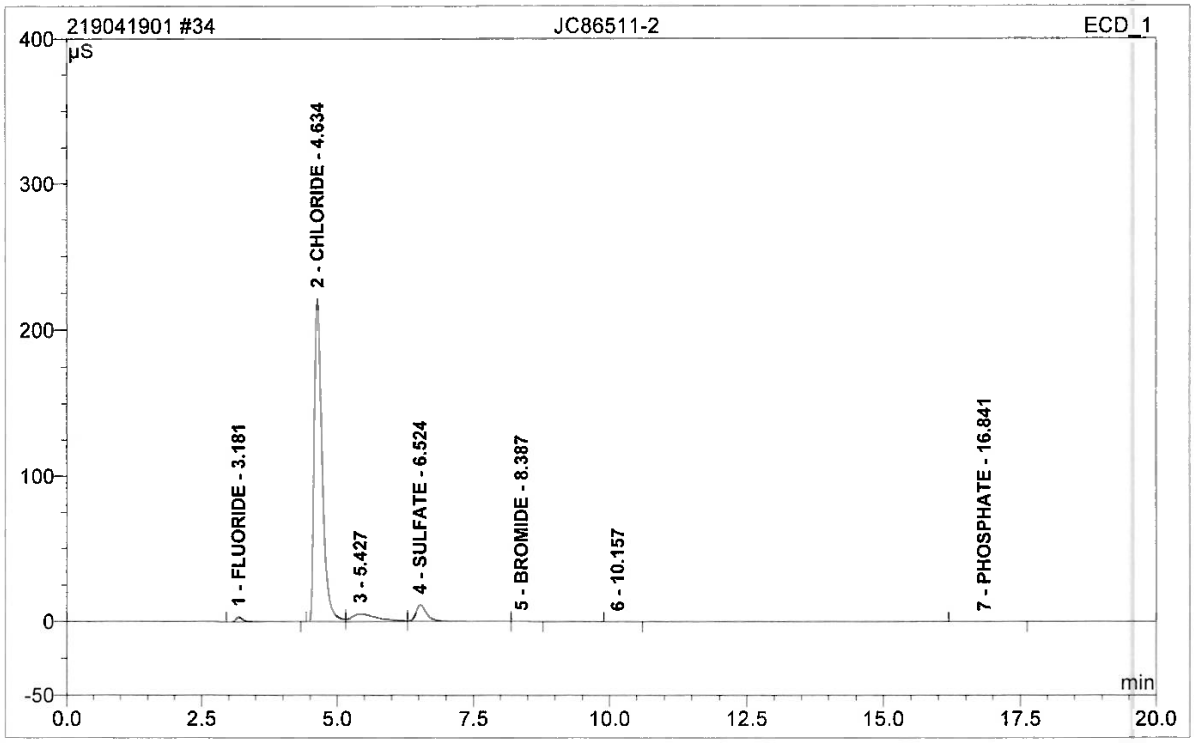
Sample Name:	**JC86511-1**	*Injection Volume:*	**20.0**
Vial Number:	**24**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 18:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.366	0.082	0.06	0.176	BMB
2	4.61	CHLORIDE	518.694	92.745	69.38	311.527	BM
3	5.46	NITRATE	5.153	2.831	2.12	4.290	M
4	6.35	SULFATE	117.778	38.009	28.43	172.511	MB
5	10.12	n.a.	0.028	0.007	0.01	n.a.	BMB
6	18.24	n.a.	0.002	0.001	0.00	n.a.	BMB
Total:			642.021	133.674	100.00	488.504	

34 JC86511-2

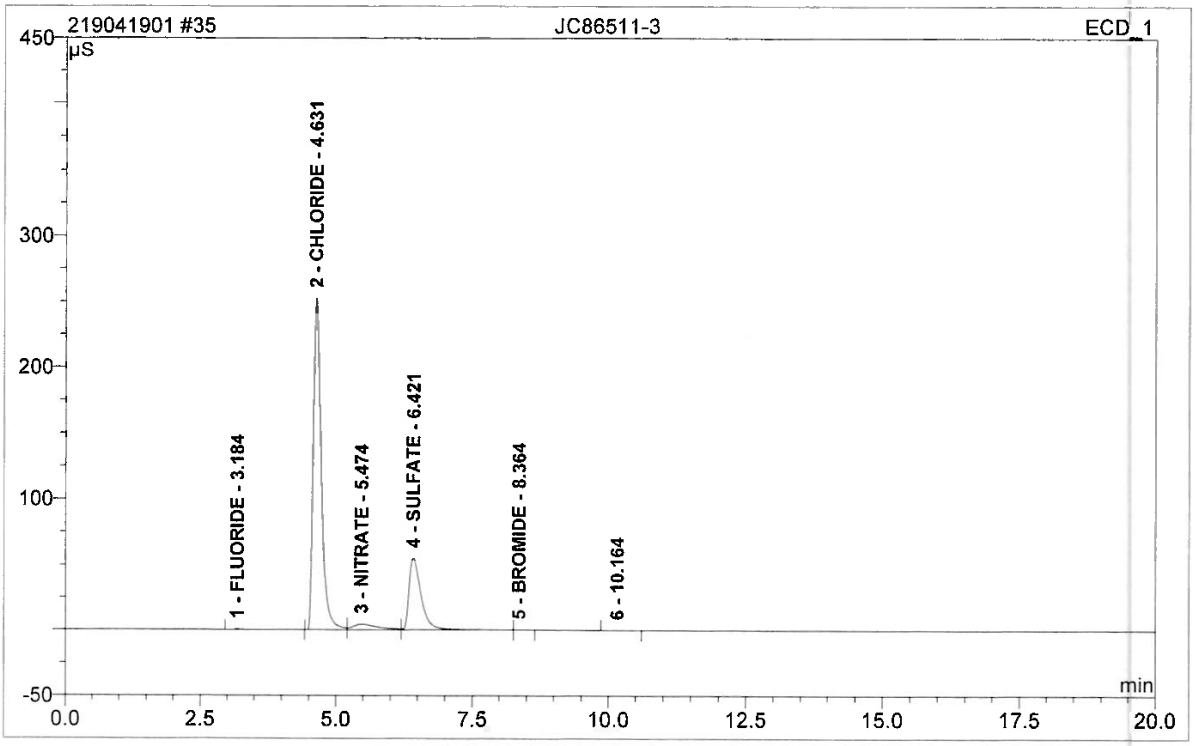
Sample Name:	**JC86511-2**	*Injection Volume:*	**20.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 19:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	3.125	0.472	1.07	1.015	BMB
2	4.63	CHLORIDE	220.982	37.791	85.65	126.938	BM
3	5.43	n.a.	5.196	2.938	6.66	n.a.	M
4	6.52	SULFATE	11.370	2.872	6.51	13.037	Mb
5	8.39	BROMIDE	0.105	0.023	0.05	0.188	bMB
6	10.16	n.a.	0.015	0.004	0.01	n.a.	BMB
7	16.84	PHOSPHATE	0.044	0.022	0.05	0.117	BMB
Total:			240.837	44.122	100.00	141.295	

35 JC86511-3

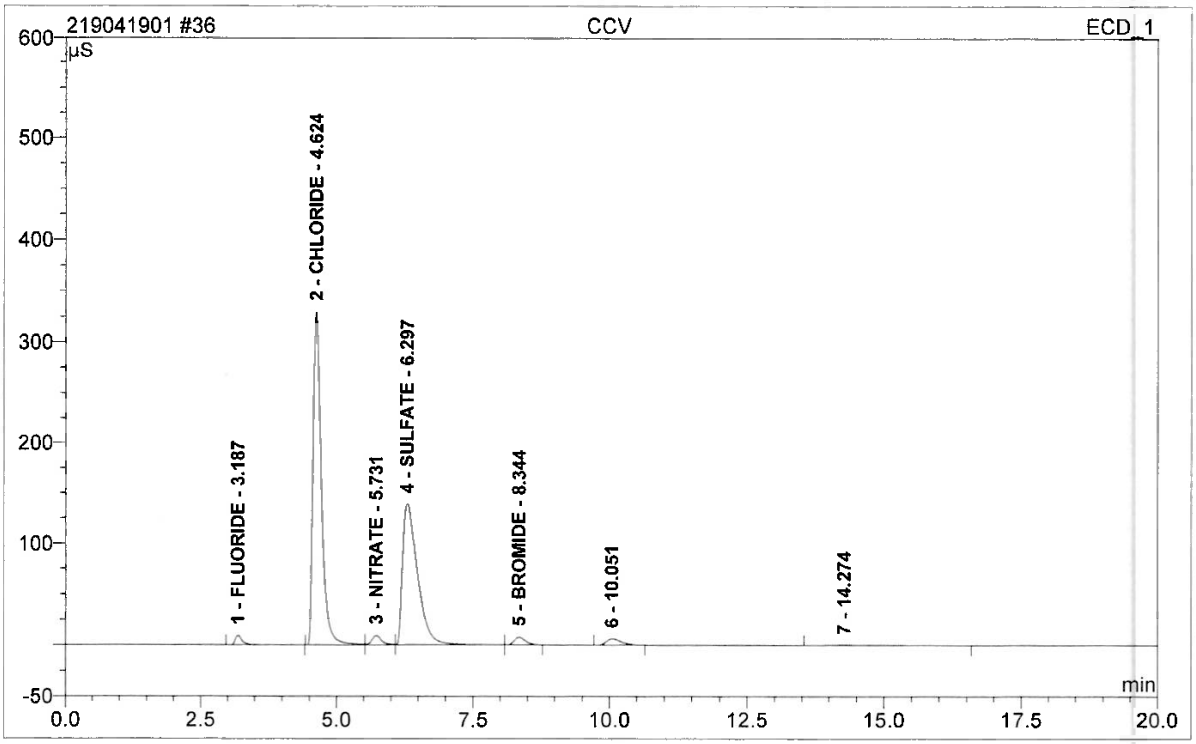
Sample Name:	**JC86511-3**	*Injection Volume:*	**20.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 19:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.405	0.090	0.15	0.193	BMB
2	4.63	CHLORIDE	252.017	43.554	72.70	146.297	BM
3	5.47	NITRATE	4.210	2.201	3.67	3.335	M
4	6.42	SULFATE	54.674	14.058	23.46	63.804	Mb
5	8.36	BROMIDE	0.018	0.004	0.01	0.031	bMB
6	10.16	n.a.	0.023	0.006	0.01	n.a.	BMB
Total:			311.348	59.912	100.00	213.659	

36 CCV

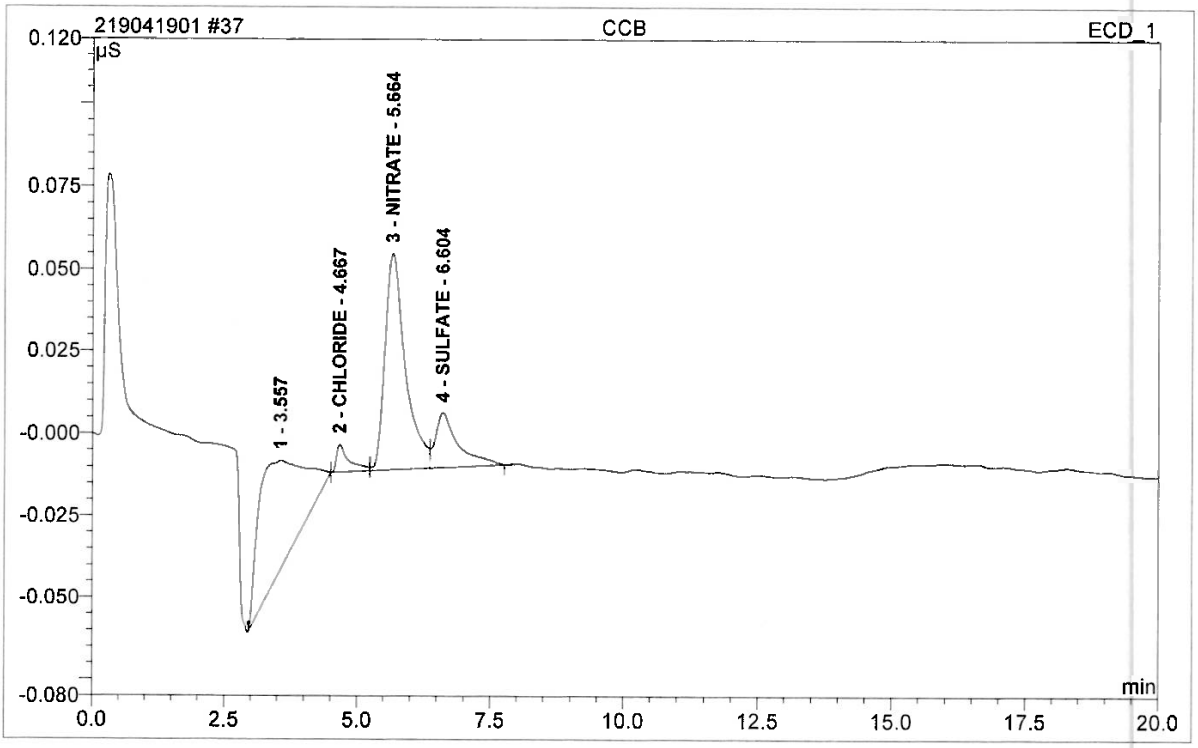
Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 20:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	9.362	1.426	1.29	3.065	BMB
2	4.62	CHLORIDE	329.527	58.907	53.39	197.866	BM
3	5.73	NITRATE	9.356	1.917	1.74	2.905	M
4	6.30	SULFATE	138.950	43.901	39.79	199.254	Mb
5	8.34	BROMIDE	7.465	1.758	1.59	14.186	bMB
6	10.05	n.a.	6.222	1.934	1.75	n.a.	BMB
7	14.27	n.a.	0.449	0.482	0.44	n.a.	BMB
Total:			501.332	110.324	100.00	417.276	

37 CCB

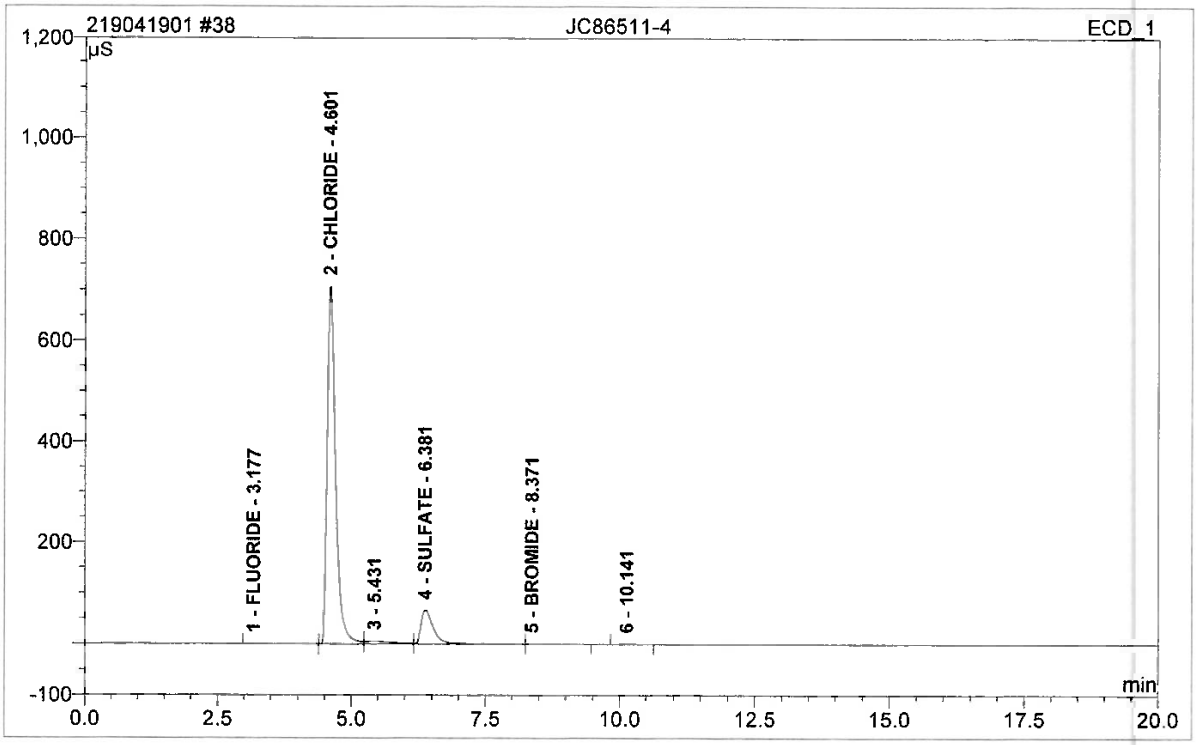
Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 20:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.56	n.a.	0.033	0.033	45.83	n.a.	BMB
2	4.67	CHLORIDE	0.008	0.002	3.09	0.008	bM
3	5.66	NITRATE	0.066	0.029	39.91	0.044	M
4	6.60	SULFATE	0.017	0.008	11.16	0.037	MB
Total:			0.124	0.073	100.00	0.088	

38 JC86511-4

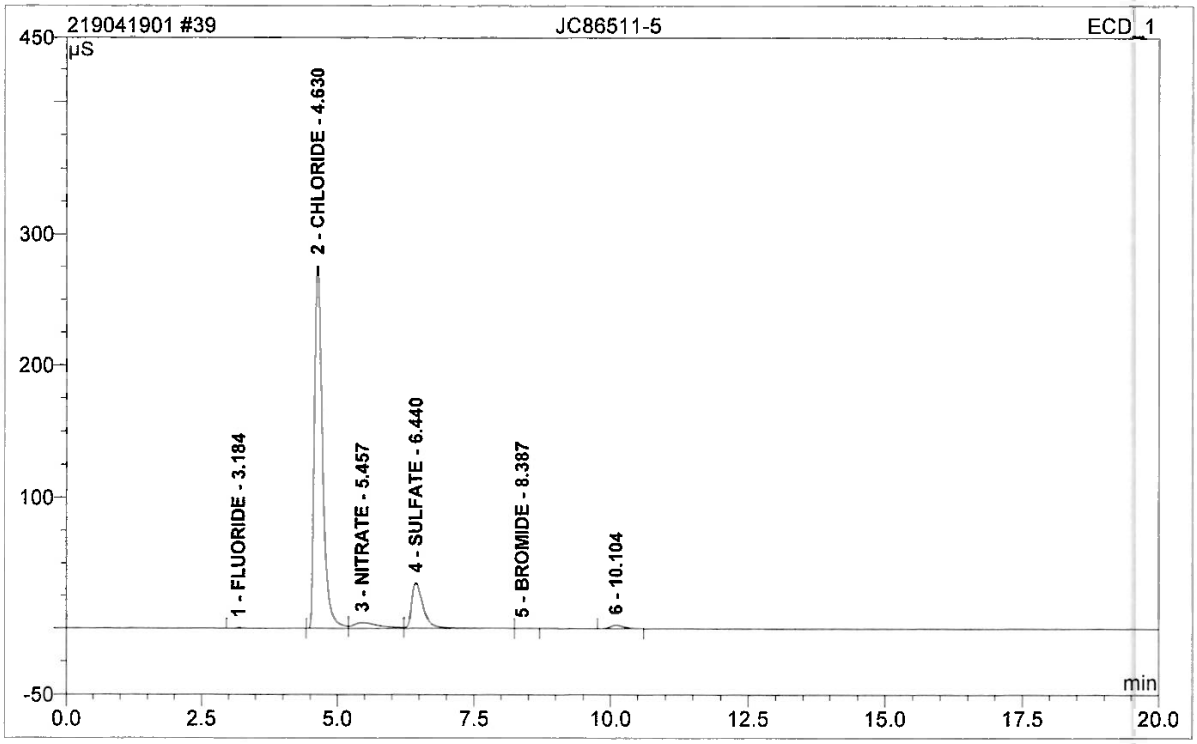
Sample Name:	**JC86511-4**	*Injection Volume:*	**20.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 20:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.607	0.118	0.08	0.254	BMB
2	4.60	CHLORIDE	706.050	128.909	85.89	433.004	BM
3	5.43	n.a.	5.413	2.995	2.00	n.a.	M
4	6.38	SULFATE	65.901	17.765	11.84	80.629	M
5	8.37	BROMIDE	0.207	0.112	0.07	0.904	MB
6	10.14	n.a.	0.690	0.191	0.13	n.a.	BMB
Total:			778.868	150.090	100.00	514.791	

39 JC86511-5

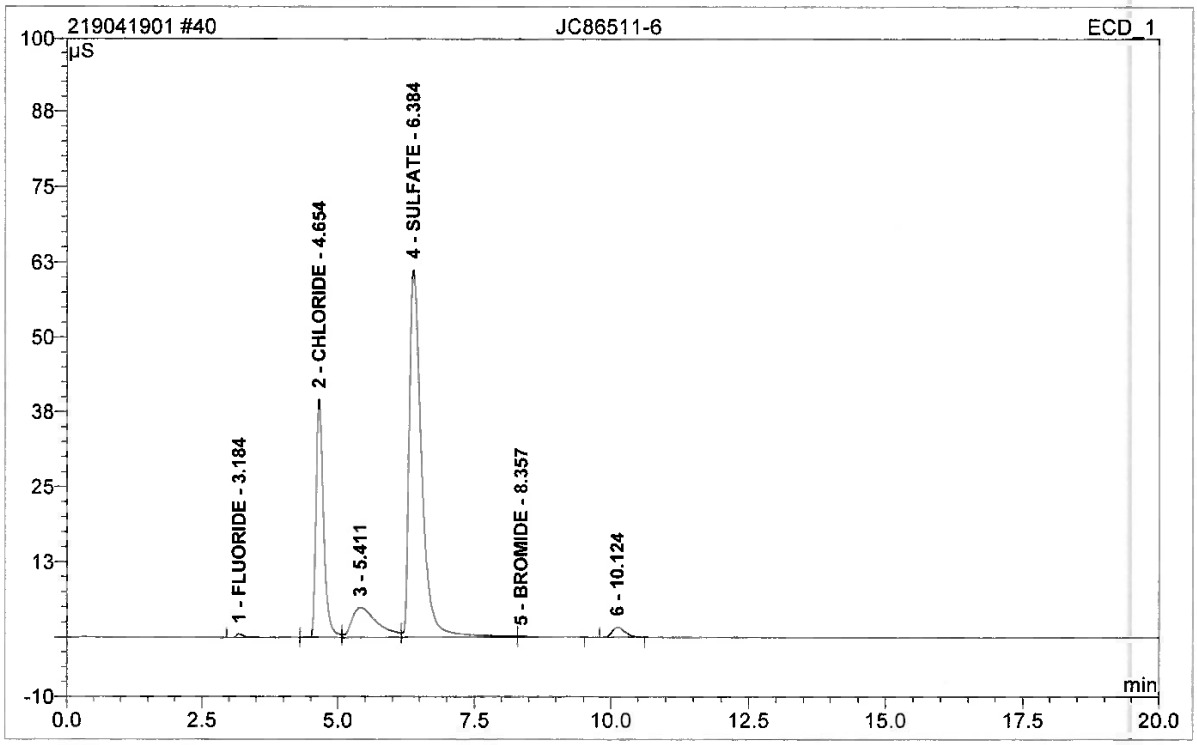
Sample Name:	**JC86511-5**	*Injection Volume:*	**20.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 21:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.409	0.090	0.15	0.193	BMB
2	4.63	CHLORIDE	275.946	47.991	80.48	161.200	BM
3	5.46	NITRATE	4.381	2.333	3.91	3.535	M
4	6.44	SULFATE	34.507	8.506	14.26	38.607	Mb
5	8.39	BROMIDE	0.033	0.007	0.01	0.057	bMB
6	10.10	n.a.	2.549	0.706	1.18	n.a.	BMB
Total:			317.825	59.632	100.00	203.592	

40 JC86511-6

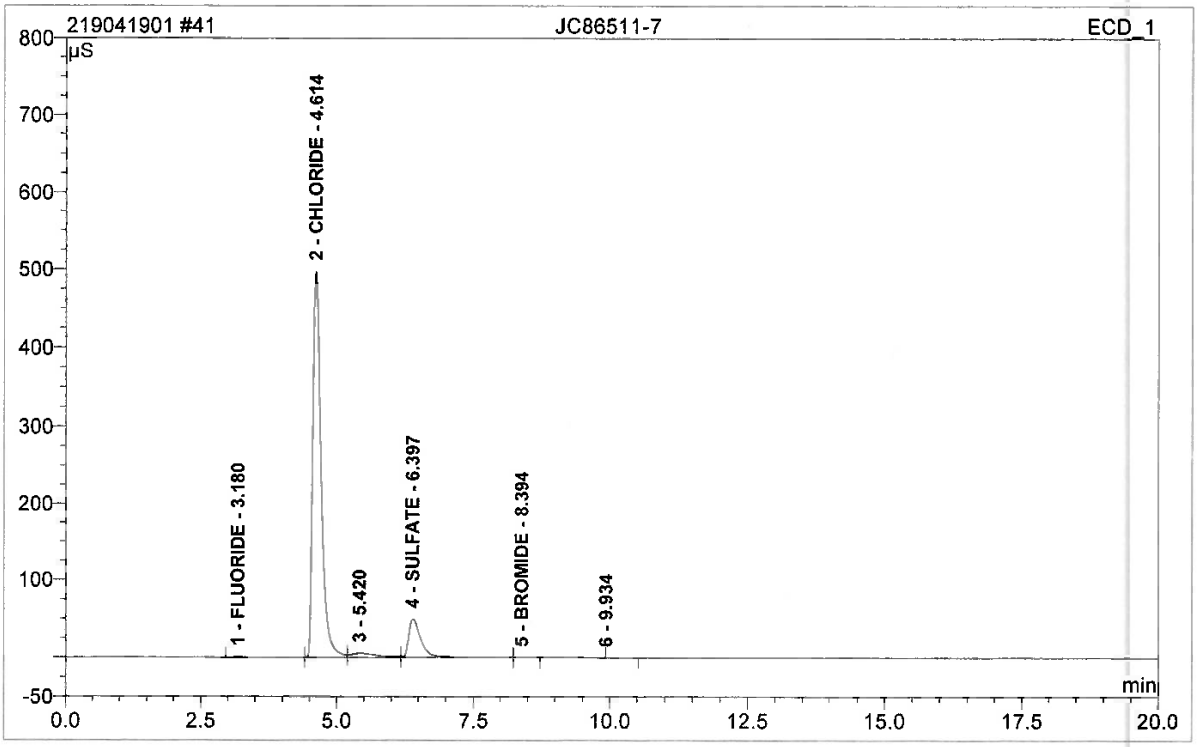
Sample Name:	**JC86511-6**	*Injection Volume:*	**20.0**
Vial Number:	**31**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 21:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.576	0.127	0.49	0.272	BM
2	4.65	CHLORIDE	39.682	6.354	24.62	21.341	M
3	5.41	n.a.	4.898	2.670	10.34	n.a.	M
4	6.38	SULFATE	61.309	16.143	62.54	73.269	M
5	8.36	BROMIDE	0.126	0.064	0.25	0.519	MB
6	10.12	n.a.	1.655	0.453	1.76	n.a.	BMB
Total:			108.246	25.811	100.00	95.402	

41 JC86511-7

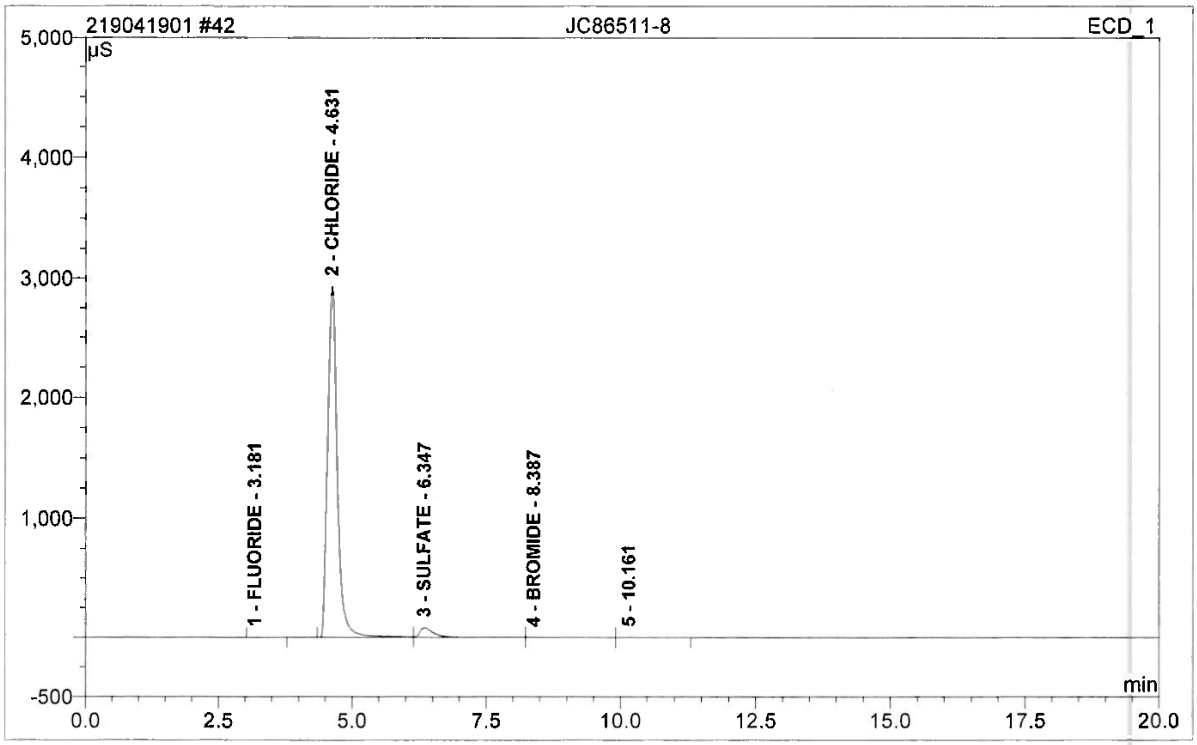
Sample Name:	**JC86511-7**	*Injection Volume:*	**20.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 21:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.832	0.150	0.14	0.322	BMB
2	4.61	CHLORIDE	497.057	89.199	84.93	299.617	BM
3	5.42	n.a.	5.294	2.952	2.81	n.a.	M
4	6.40	SULFATE	49.501	12.714	12.11	57.704	Mb
5	8.39	BROMIDE	0.059	0.013	0.01	0.101	bMB
6	9.93	n.a.	0.000	0.002	0.00	n.a.	BMB
Total:			552.742	105.029	100.00	357.744	

42 JC86511-8

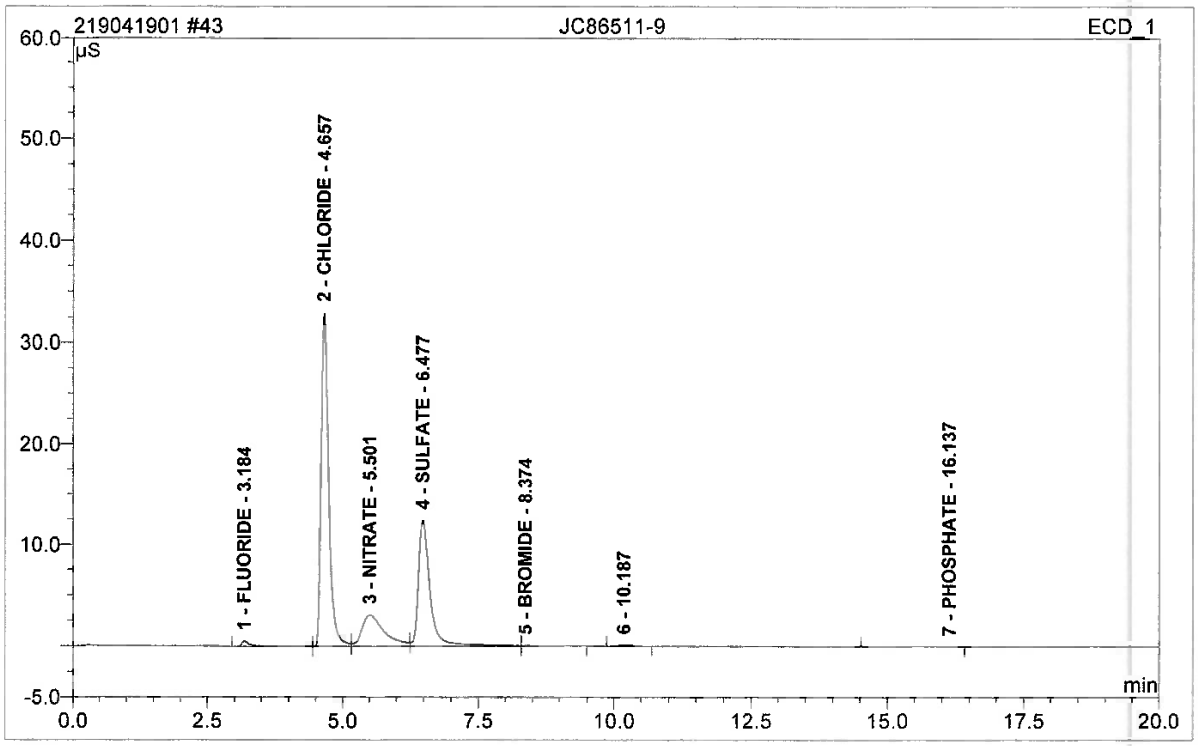
Sample Name:	**JC86511-8**	*Injection Volume:*	**20.0**
Vial Number:	**33**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 22:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.242	0.045	0.01	0.097	BMB
2	4.63	CHLORIDE	2926.616	616.420	95.82	2070.541	BM
3	6.35	SULFATE	80.755	25.494	3.96	115.710	M
4	8.39	BROMIDE	1.051	1.042	0.16	8.411	M
5	10.16	n.a.	0.541	0.284	0.04	n.a.	MB
Total:			3009.204	643.285	100.00	2194.759	

43 JC86511-9

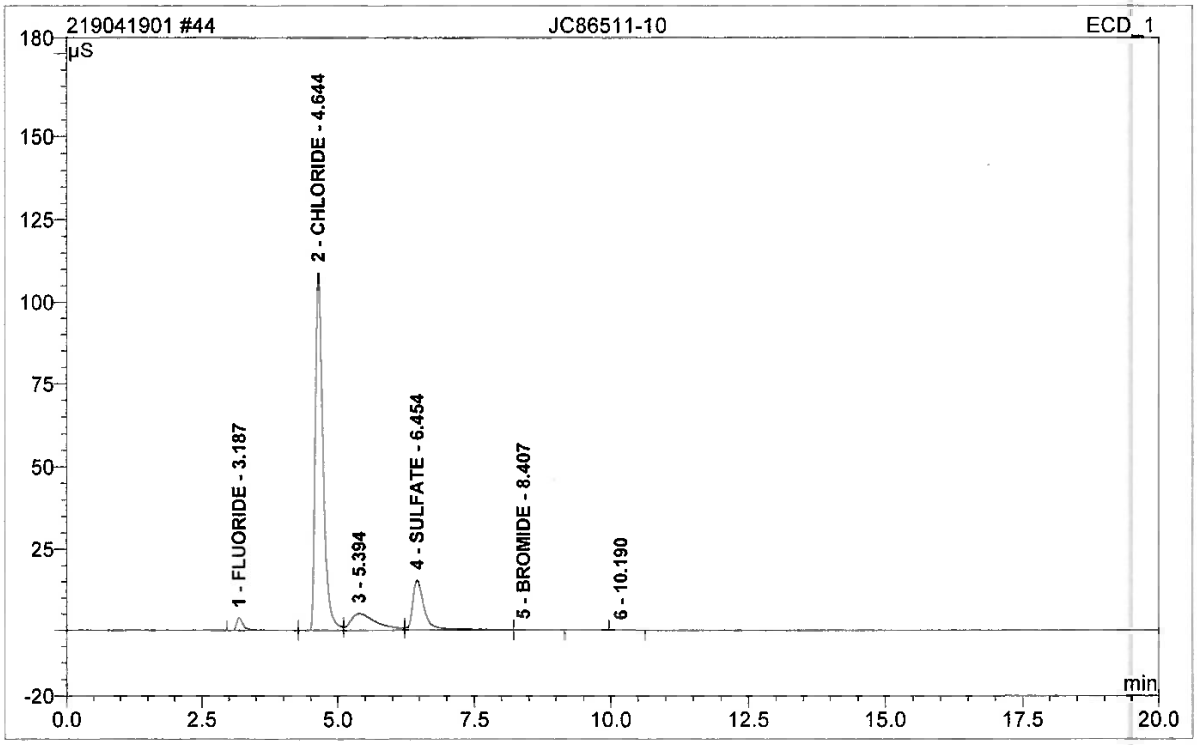
Sample Name:	**JC86511-9**	*Injection Volume:*	**20.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 22:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.527	0.107	1.06	0.229	BMB
2	4.66	CHLORIDE	32.904	5.337	53.18	17.927	bM
3	5.50	NITRATE	3.029	1.445	14.40	2.190	M
4	6.48	SULFATE	12.417	3.081	30.70	13.983	M
5	8.37	BROMIDE	0.051	0.025	0.25	0.206	MB
6	10.19	n.a.	0.131	0.037	0.37	n.a.	BMB
7	16.14	PHOSPHATE	0.002	0.003	0.03	0.015	BMB
Total:			49.060	10.036	100.00	34.550	

44 JC86511-10

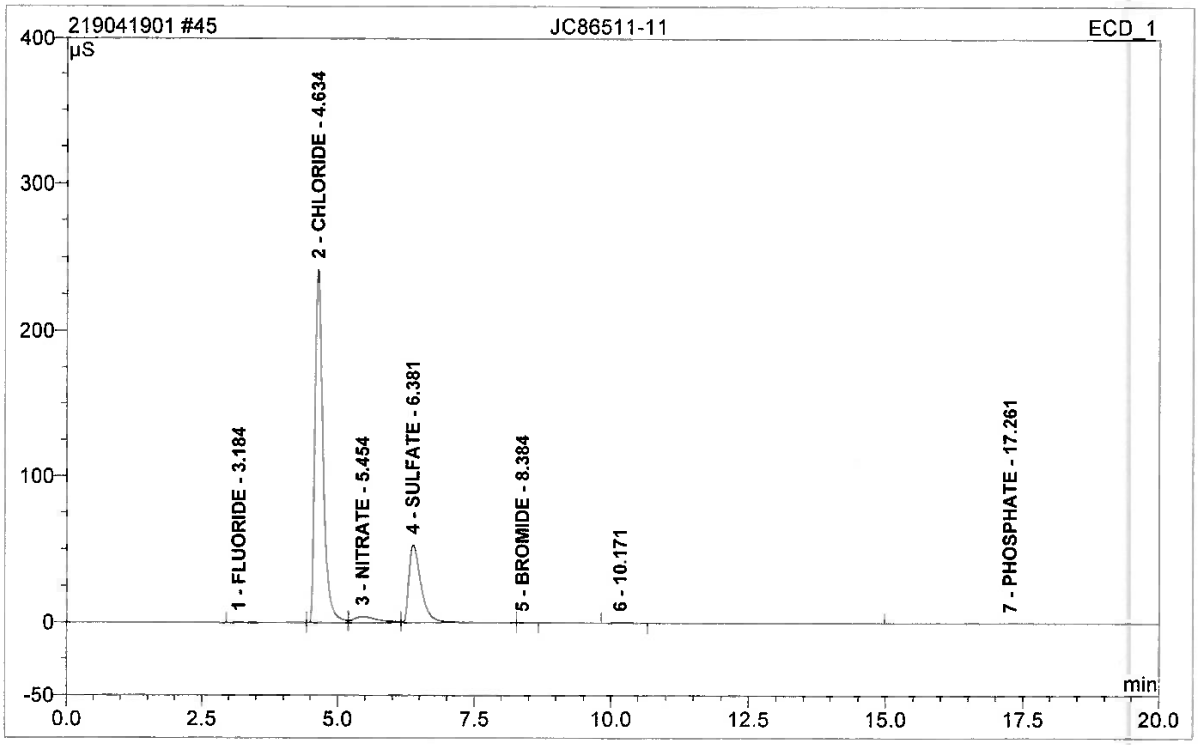
Sample Name:	**JC86511-10**	*Injection Volume:*	**20.0**
Vial Number:	**35**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 23:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	3.889	0.602	2.36	1.295	BM
2	4.64	CHLORIDE	108.967	18.026	70.73	60.550	M
3	5.39	n.a.	5.109	2.841	11.15	n.a.	M
4	6.45	SULFATE	15.431	3.964	15.55	17.990	M
5	8.41	BROMIDE	0.128	0.050	0.20	0.407	MB
6	10.19	n.a.	0.014	0.004	0.02	n.a.	BMB
Total:			133.537	25.488	100.00	80.242	

45 JC86511-11

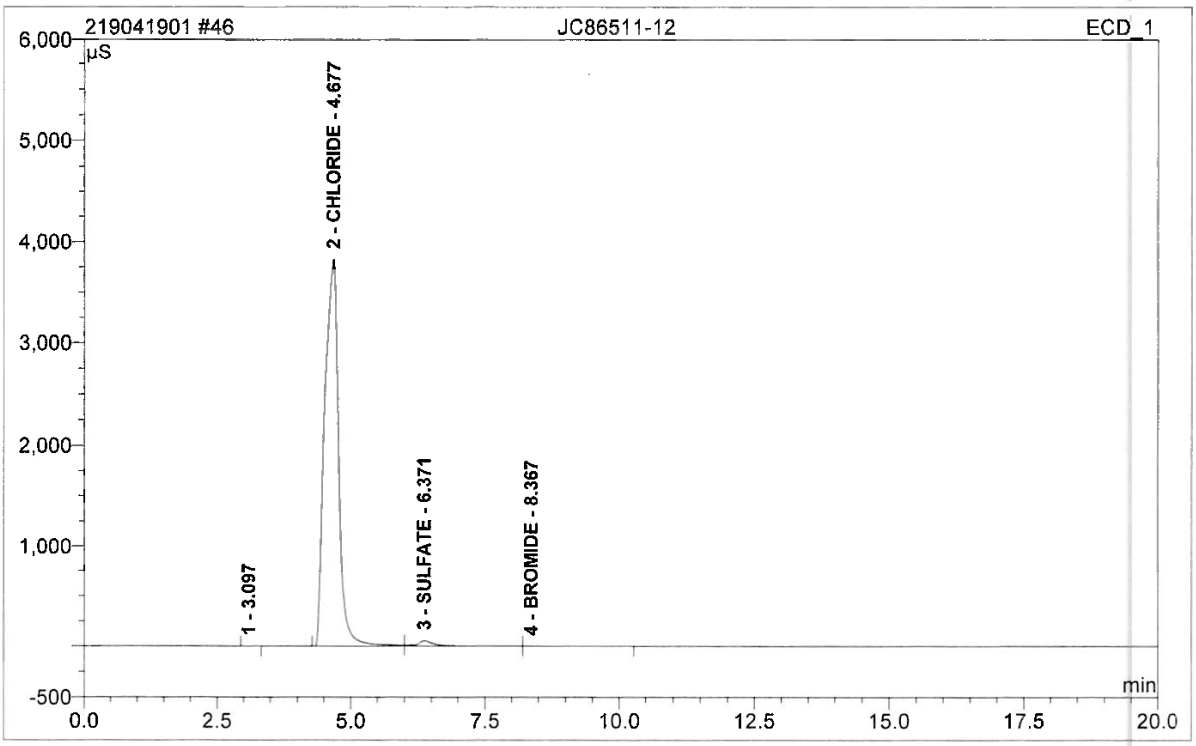
Sample Name:	**JC86511-11**	*Injection Volume:*	**20.0**
Vial Number:	**36**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 23:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.18	FLUORIDE	0.384	0.086	0.15	0.185	BMB
2	4.63	CHLORIDE	241.740	42.031	72.16	141.183	BM
3	5.45	NITRATE	4.070	2.104	3.61	3.188	M
4	6.38	SULFATE	53.097	13.735	23.58	62.339	Mb
5	8.38	BROMIDE	0.018	0.004	0.01	0.031	bMB
6	10.17	n.a.	0.508	0.142	0.24	n.a.	BMB
7	17.26	PHOSPHATE	0.050	0.145	0.25	0.785	BMB
Total:			299.868	58.247	100.00	207.711	

46 JC86511-12

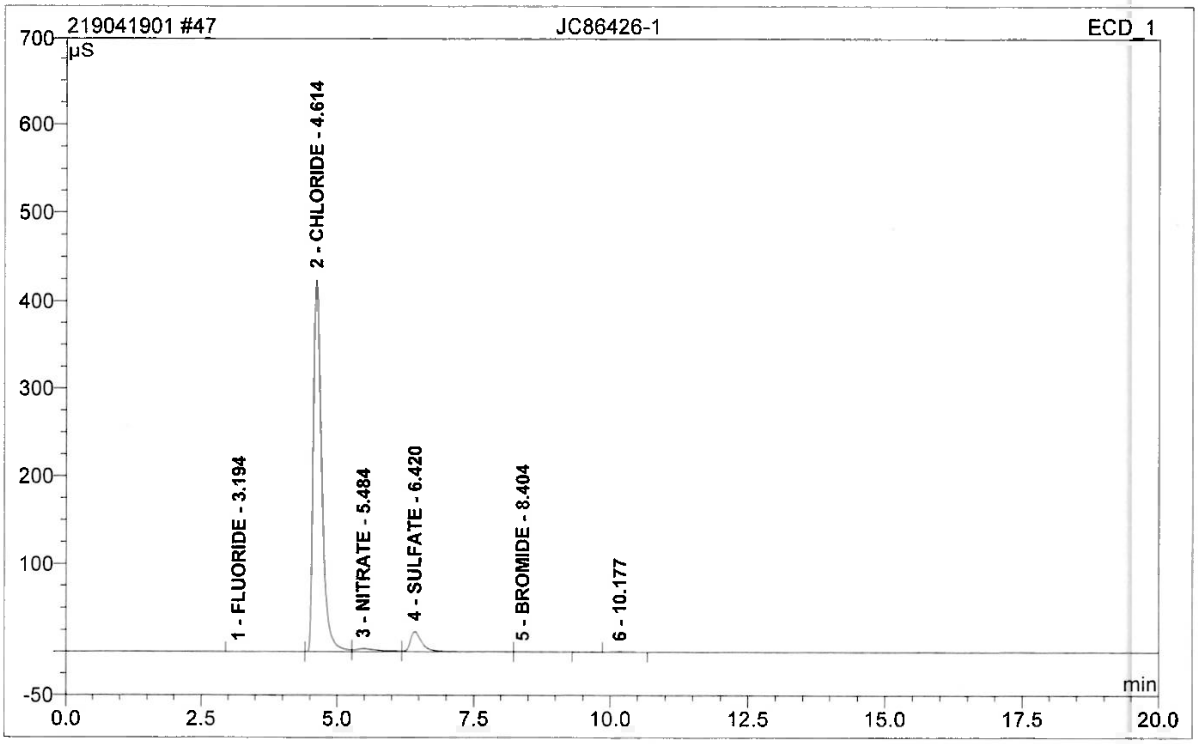
Sample Name:	**JC86511-12**	*Injection Volume:*	**20.0**
Vial Number:	**37**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/19/2019 23:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.10	n.a.	0.085	0.019	0.00	n.a.	BMB
2	4.68	CHLORIDE	3824.170	1158.531	98.08	3891.479	BM
3	6.37	SULFATE	52.655	21.311	1.80	96.725	M
4	8.37	BROMIDE	1.572	1.360	0.12	10.978	MB
Total:			3878.483	1181.221	100.00	3999.182	

47 JC86426-1

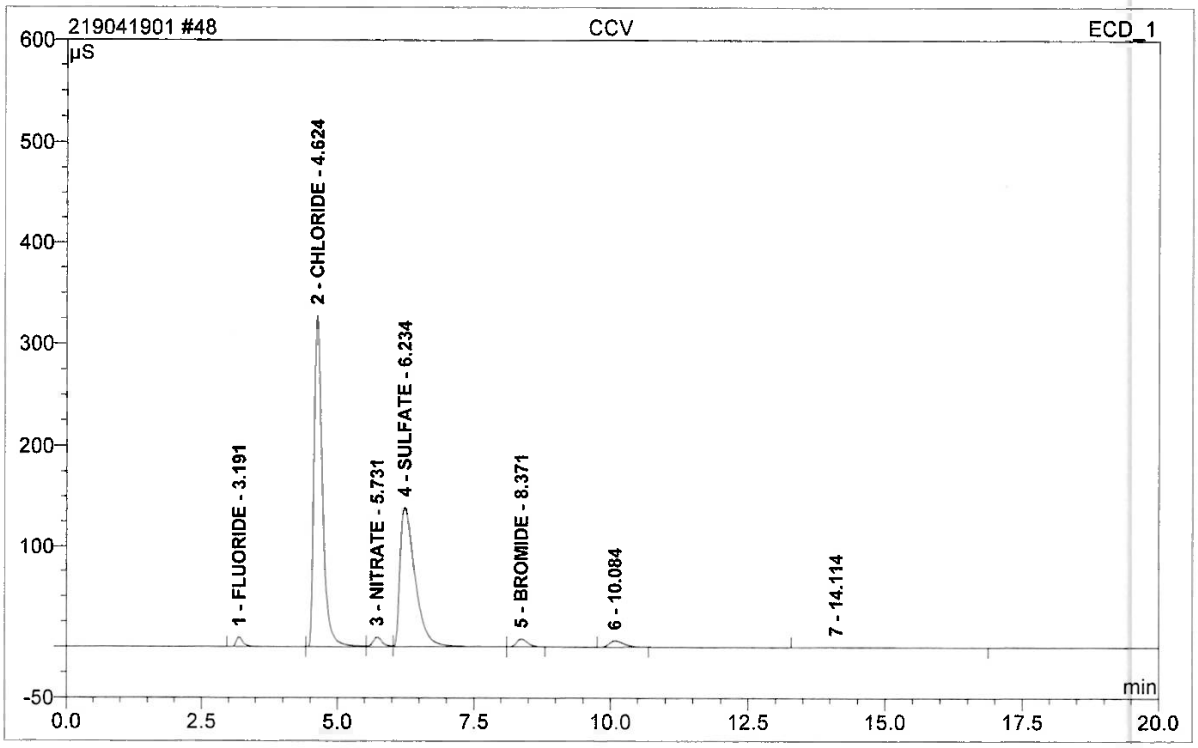
Sample Name:	**JC86426-1**	*Injection Volume:*	**20.0**
Vial Number:	**41**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**2.0000**
Recording Time:	**4/20/2019 0:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	0.081	0.036	0.04	0.156	BMB
2	4.61	CHLORIDE	424.368	76.906	90.65	516.649	BM
3	5.48	NITRATE	3.443	1.780	2.10	5.394	M
4	6.42	SULFATE	23.121	5.955	7.02	54.053	M
5	8.40	BROMIDE	0.126	0.059	0.07	0.955	MB
6	10.18	n.a.	0.379	0.107	0.13	n.a.	BMB
Total:			451.518	84.842	100.00	577.206	

48 CCV

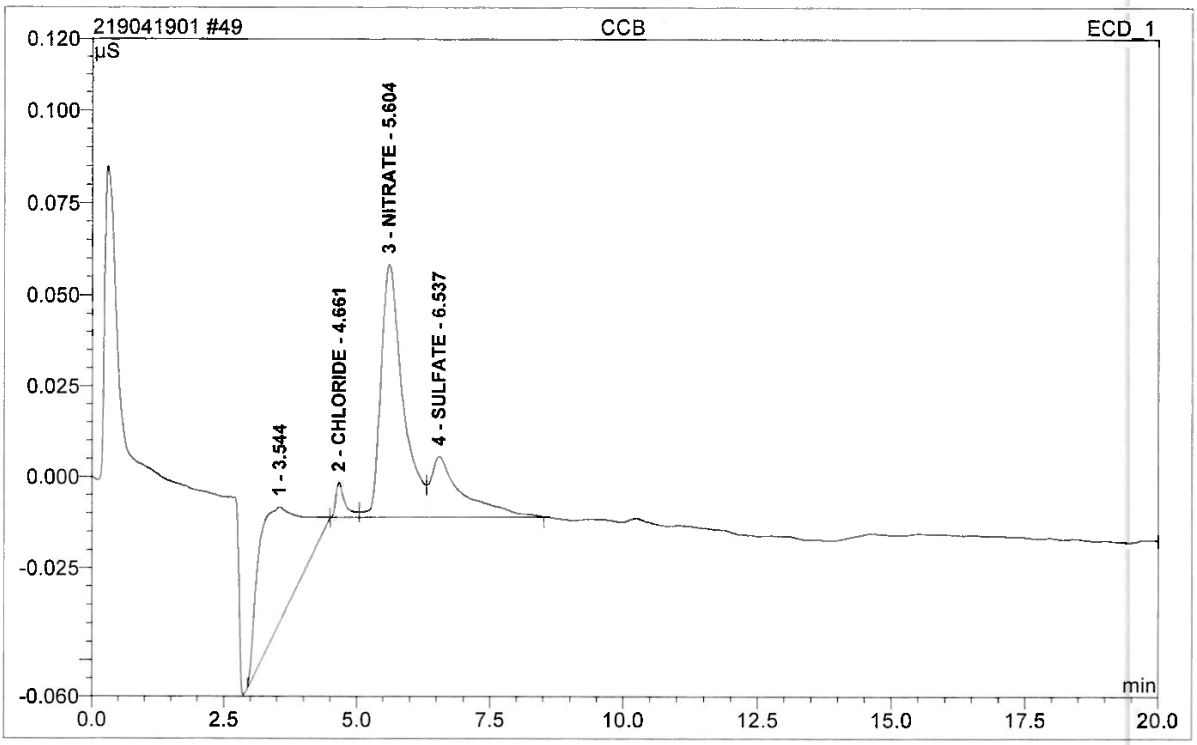
Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**38**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/20/2019 0:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.19	FLUORIDE	9.231	1.425	1.29	3.063	BMB
2	4.62	CHLORIDE	327.579	59.036	53.40	198.302	BM
3	5.73	NITRATE	9.291	1.882	1.70	2.851	M
4	6.23	SULFATE	139.231	44.046	39.84	199.911	Mb
5	8.37	BROMIDE	7.425	1.766	1.60	14.251	bMB
6	10.08	n.a.	6.115	1.934	1.75	n.a.	BMB
7	14.11	n.a.	0.358	0.465	0.42	n.a.	BMB
Total:			499.231	110.555	100.00	418.379	

49 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**39**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions3_ASDV**	*Bandwidth:*	**n.a.**
Quantif. Method:	**System3Anions**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/20/2019 1:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**21.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	3.54	n.a.	0.031	0.030	39.23	n.a.	BMB
2	4.66	CHLORIDE	0.010	0.002	2.58	0.007	bM
3	5.60	NITRATE	0.069	0.033	43.08	0.050	M
4	6.54	SULFATE	0.017	0.012	15.11	0.053	MB
Total:			0.127	0.077	100.00	0.110	

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: E90419W1.TXT
Analyst: CD

Date Analyzed: 04/19/19
Run ID: GN94326

Methods: SM5310 B-11

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: CD Date 4/22/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date 4/22/19

13.7
13

C:\TOC-L\Data\e90419w1.toc.tlx

	Type	Sample Name	Sample ID	Origin	Manual Diluti	Result	Comment	Status
1	Unknown	WASHCONF		TOCAQ.met	1.000	NPOC:-0.07		Completed
2	Unknown	CRI		TOCAQ.met	1.000	NPOC:1.02		Completed
3	Unknown	HSTD		TOCAQ.met	1.000	NPOC:47.7		Completed
4	Unknown	ICV		TOCAQ.met	1.000	NPOC:18.8		Completed
5	Unknown	ICB		TOCAQ.met	1.000	NPOC:0.10		Completed
6	Unknown	CCV		TOCAQ.met	1.000	NPOC:23.4		Completed
7	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.13		Completed
8	Unknown	SPARGERCHK		TOCAQ.met	1.000	NPOC:0.11		Completed
9	Unknown	GP20738-MB1	TOC	TOCAQ.met	1.000	NPOC:0.03		Completed
10	Unknown	GP20738-B1		TOCAQ.met	1.000	NPOC:9.82		Completed
11	Unknown	JC86426-1		TOCAQ.met	1.000	NPOC:0.82		Completed
12	Unknown	JC86461-2		TOCAQ.met	1.000	NPOC:3.68		Completed
13	Unknown	GP20738-S1	JC86461-2	TOCAQ.met	1.000	NPOC:14.4		Completed
14	Unknown	GP20738-MSD1	JC86461-2	TOCAQ.met	1.000	NPOC:14.3		Completed
15	Unknown	JC86461-7		TOCAQ.met	1.000	NPOC:2.53		Completed
16	Unknown	JC86461-8		TOCAQ.met	1.000	NPOC:1.16		Completed
17	Unknown	JC86037-1		TOCAQ.met	1.000	NPOC:3.92		Completed
18	Unknown	CCVA		TOCAQ.met	1.000	NPOC:47.8		Completed
19	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.21		Completed
20	Unknown	JC86058-1		TOCAQ.met	1.000	NPOC:0.58		Completed
21	Unknown	JC86059-1		TOCAQ.met	1.000	NPOC:0.65		Completed
22	Unknown	JC86512-8		TOCAQ.met	1.000	NPOC:1.91		Completed
23	Unknown	JC86512-10		TOCAQ.met	1.000	NPOC:0.61		Completed
24	Unknown	JC86510-1		TOCAQ.met	1.000	NPOC:0.38		Completed
25	Unknown	GP20739-MB1	TOC	TOCAQ.met	1.000	NPOC:0.03		Completed
26	Unknown	GP20739-B1		TOCAQ.met	1.000	NPOC:9.99		Completed
27	Unknown	JC86156-1		TOCAQ.met	1.000	NPOC:1.39		Completed
28	Unknown	GP20739-S1	JC86156-1	TOCAQ.met	1.000	NPOC:12.2		Completed
29	Unknown	GP20739-MSD1	JC86156-1	TOCAQ.met	1.000	NPOC:12.3		Completed
30	Unknown	CCV		TOCAQ.met	1.000	NPOC:23.4		Completed
31	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.21		Completed
32	Unknown	JC86200-3		TOCAQ.met	1.000	NPOC:0.14		Completed
33	Unknown	JC86251-2		TOCAQ.met	1.000	NPOC:7.36		Completed
34	Unknown	JC86299-1		TOCAQ.met	1.000	NPOC:1.16		Completed
35	Unknown	JC86344-11		TOCAQ.met	1.000	NPOC:0.36		Completed
36	Unknown	JC86387-1		TOCAQ.met	1.000	NPOC:10.5		Completed
37	Unknown	JC86387-2		TOCAQ.met	1.000	NPOC:1.97		Completed
38	Unknown	JC86387-3		TOCAQ.met	1.000	NPOC:1.66		Completed
39	Unknown	JC86387-4		TOCAQ.met	1.000	NPOC:1.29		Completed
40	Unknown	GP20740-MB1	TOC	TOCAQ.met	1.000	NPOC:0.22		Completed
41	Unknown	GP20740-B1		TOCAQ.met	1.000	NPOC:9.93		Completed
42	Unknown	CCVA		TOCAQ.met	1.000	NPOC:47.5		Completed
43	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.26		Completed
44	Unknown	JC86344-1		TOCAQ.met	1.000	NPOC:0.77		Completed
45	Unknown	JC86344-2		TOCAQ.met	1.000	NPOC:0.51		Completed
46	Unknown	JC86344-3		TOCAQ.met	1.000	NPOC:0.48		Completed
47	Unknown	JC86344-4		TOCAQ.met	1.000	NPOC:0.46		Completed
48	Unknown	JC86344-5		TOCAQ.met	1.000	NPOC:0.34		Completed
49	Unknown	JC86344-6		TOCAQ.met	1.000	NPOC:0.43		Completed
50	Unknown	GP20740-S1	JC86344-6	TOCAQ.met	1.000	NPOC:11.5		Completed
51	Unknown	GP20740-MSD1	JC86344-6	TOCAQ.met	1.000	NPOC:11.6		Completed

4/22/2019 9:55:06 AM

GN94326 e90419w1.toc CAO 4/22/19

1/4

13.7 13

C:\TOC-L\Data\e90419w1.toc.tlx

	Type	Sample Name	Sample ID	Origin	Manual Diluti	Result	Comment	Status
52	Unknown	JC86344-7		TOCAQ.met	1.000	NPOC:0.67		Completed
53	Unknown	JC86344-8		TOCAQ.met	1.000	NPOC:0.83		Completed
54	Unknown	CCV		TOCAQ.met	1.000	NPOC:23.4		Completed
55	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.03		Completed
56	Unknown	JC86344-9		TOCAQ.met	1.000	NPOC:0.72		Completed
57	Unknown	JC86344-10		TOCAQ.met	1.000	NPOC:0.51		Completed
58	Unknown	GP20741-MB1	TOC	TOCAQ.met	1.000	NPOC:0.18		Completed
59	Unknown	GP20741-B1		TOCAQ.met	1.000	NPOC:9.91		Completed
60	Unknown	JC86461-3		TOCAQ.met	1.000	NPOC:2.79		Completed
61	Unknown	JC86461-4		TOCAQ.met	1.000	NPOC:0.88		Completed
62	Unknown	JC86461-5		TOCAQ.met	1.000	NPOC:1.53		Completed
63	Unknown	GP20741-S1	JC86461-5	TOCAQ.met	1.000	NPOC:11.8		Completed
64	Unknown	GP20741-MSD1	JC86461-5	TOCAQ.met	1.000	NPOC:12.3		Completed
65	Unknown	JC86461-6		TOCAQ.met	1.000	NPOC:4.72		Completed
66	Unknown	CCVA		TOCAQ.met	1.000	NPOC:47.5		Completed
67	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.24		Completed
68	Unknown	JC86461-9		TOCAQ.met	1.000	NPOC:2.46		Completed
69	Unknown	JC86461-10		TOCAQ.met	1.000	NPOC:2.36		Completed
70	Unknown	JC86398-1		TOCAQ.met	1.000	NPOC:11.0		Completed
71	Unknown	JC86398-2		TOCAQ.met	1.000	NPOC:6.81		Completed
72	Unknown	CCV		TOCAQ.met	1.000	NPOC:23.6		Completed
73	Unknown	CCB		TOCAQ.met	1.000	NPOC:0.25		Completed
74	Unknown	SPARGERCHK		TOCAQ.met	1.000	NPOC:0.25		Completed

GN94326 e90419w1.toc
CCV 4/22/19

SGS

GN Batch ID: GN94326
Date: 4/19/19

Test: Total Organic Carbon
Product: TOC or DOC
Method: SM5310 B, C, or D-11, SW846 9060M

e90419w1toc

Note: Refer to raw data and LIMS for information not shown below.

Autosampler Position #	Sample ID	pH	Dilution Factor	Bottle #	Comments
1	WASHCONF	2			
2	CRI				
3	HSTD				
4	ICV				
5	ICB				
6	CCV				
7	CCB				
8	SPARGERCHK				
9	GP20738-MB1 TOC				
10	GP20738-B1				
11	JC86426-1			11	
12	JC86461-2			9	
13	GP20738-S1			9	JC86461-2
14	GP20738-MS01			9	JC86461-2
15	JC86461-7			7	
16	JC86461-8			7	
17	JC86037-1			6	
18	CCVA				
19	CCB				
20	JC86058-1			2	
21	JC86059-1			3	
22	JC86512-8			13	
23	JC86512-10			10	
24	JC86510-1			5	
25	GP20739 MB1 TOC				
26	GP20739 B1				
27	JC86156-1			1	

Analyst: CXD Date: 4/19/19 QCReviewer: _____ Date: _____

Comments: BSP: 500ul of 1000ppm KHP → 50ml of DI H_2O TV = 10 mg/L
MS/MSD: 200ul of 1000ppm KHP → 20ml of sample TV = 10 mg/L
ICV: 5ml of 100ppm sucrose → 25ml of DI H_2O TV = 20 mg/L

Form: GN054-04
Rev. Date: 2/27/18

13.7 13

SGS

GN Batch ID: GN94326
Date: 4/19/19

Test: **Total Organic Carbon**
Product: **TOC or DOC**
Method: **SM5310 B, C, or D-11, SW846 9060M**

Note: Refer to raw data and LIMS for information not shown below.

Autosampler Position #	Sample ID	pH	Dilution Factor	Bottle #	Comments
28	GP20739 S1	4.2		1	JC86156-1
29	GP20739 MSD1			1	JC86156-1
30	CCV				
31	CCB				
32	JC86200-3			4	
33	JC86251-2			4	
34	JC86299-1			2	
35	JC86344-11			7	
36	JC86387-1			5	
37	JC86387-2			5	
38	JC86387-3			5	
39	JC86387-4			5	
40	GP20740 MB1	TOC			
41	GP20740 B1				
42	CCVA				
43	CCB				
44	JC86344-1			6	
45	JC86344-2			6	
46	JC86344-3			6	
47	JC86344-4			6	
48	JC86344-5			6	
49	JC86344-6			18	
50	GP20740 S1			18	JC86344-6
51	GP20740 MSD1			18	JC86344-6
52	JC86344-7			6	
53	JC86344-8			6	
54	CCV				

Analyst: CZD Date: 4/19/19 QCReviewer: _____ Date: _____
Comments:

Form: GN054-04
Rev. Date: 2/27/18

SGS

GN Batch ID: GN94321
Date: 4/19/19

Test: Total Organic Carbon
Product: TOC or DOC
Method: SM5310 B, C, or D-11, SW846 9060M
Note: Refer to raw data and LIMS for information not shown below.

Autosampler Position #	Sample ID	pH	Dilution Factor	Bottle #	Comments
55	CCB	2			
56	JC86344-9			6	
57	JC86344-10			6	
58	GP20741 MB1	TOC			
59	GP20741 B1				
60	JC86461-3			7	
61	JC86461-4			7	
62	JC86461-5			7	
63	GP20741 S1			7	JC86461-5
64	GP20741 MSD1			7	JC86461-5
65	JC86461-6			7	
66	CCVA				
67	CCB				
68	JC86461-9			7	
69	JC86461-10			7	
70	JC86398-1			8	
71	JC86382			8	
72	CCV				
1	CCB				
2	SPARGERCHK				

Analyst: CZO Date: 4/19/19 QCReviewer: Date: 4/22/19
Comments:

Form: GN054-04
Rev. Date: 2/27/18

SGS

GN94326

Reagent Information Log - TOC/DOC - Water

Reagent	Reagent # or Manufacturer/Lot	Exp. Date
Potassium Hydrogen Phthlate (KHP), Stock Solution 1000 mg/L	GNE3-57653-TOC	6/28/19
Carbonate/Bicarbonate Stock Solution	GNE3-57650-TOC	6/28/19
Sparger-Check Solution	GNE3-57651-TOC	4/25/19
CCV Solution	GNE3-57655-TOC	4/25/19
CCVA Solution (50 ppm)	GNE3-57656-TOC	4/25/19
Spiking Solution	GNE3-57653-TOC	6/28/19
CRI Check	GNE3-57658-TOC	4/25/19
HCl	JT Baker 0000217157	3/20/21
pH Hydron paper	hydrion 232516	11/30/19
Sucrose solution	GNE3-57654-TOC	4/25/19
DOC Filter	IC Millex lot #R8BA17691	n/a

All standards and stocks were made as described in the SOP for this method (circle one): Y or N
If no (N), see attached page for standards prep.

Form: GN087A67-04
Rev. Date: 4/6/18

13.7 13

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG

PRODUCT: Toc

(GN) or GP NUMBER: GN94326

Intermediate Standard Description	Stock used to prepare standard	Stock concentration (mg/L)	Stock volume or weight used with units	Balance/ Autopipet ID (*)	Diluent	Final Volume (ml)	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
GNE3-57653-Toc	acros A0376652	KHP	2.125g	B-39	DI H_2O	1000mL	1000 ppm	6/28/19	CZD	3/28/19
GNE3-57657 Toc	GNE3-57653-Toc	1000ppm	20mL	class A pipet	↓	200mL	100 ppm	4/25/19	↓	↓
GNE3-57654 Toc	Fisher 173322	sucrose	0.0474g	B-39	↓	200mL	100 ppm	↓	↓	↓

Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration (mg/L)	Intermediate or Stock volume used in ml	Balance/ Autopipet ID (*)	Diluent	Final Volume (ml)	Final Conc. of Standard (mg/l)	Expiration Date	Analyst	Date
KHP STDs										
GNE3-57658 Toc	GNE3-57657Toc	100ppm	1.0	class A pipet	DI H_2O	100mL	1.0	4/25/19	CZD	3/28/19
GNE3-57659 Toc			2.0				2.0			
GNE3-57660 Toc			5.0				5.0			
GNE3-57661 Toc			10.0				10.0			
GNE3-57662 Toc			20.0				20.0			
GNE3-57663 Toc			30.0				30.0			
GNE3-57664 Toc	↓	↓	50.0	↓	↓	↓	50.0	↓	↓	↓
KHP STDs										
GNE3-57652 Toc	acros A0383564	KHP	0.2125g	B-39	DI H_2O	100mL	100ppm	4/25/19	CZD	3/28/19
GNE3-57655 Toc	GNE3-57652 Toc	100ppm	50mL	class A pipet	↓	↓	25 ppm	↓	↓	↓
GNE3-57656 Toc	↓	↓	100mL	↓			50 ppm			

* If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the appropriate Accutest ID number.

DAYT-WET-0166-05-FORM-STD PREP
REV: 9/17/18

TOC-Control L Report

e90328w1.toc tlx

Instr.Information

Instrument Options	TOC/ASI/Sparge Kit
Catalyst	Regular Sensitivity

Cal. Curve

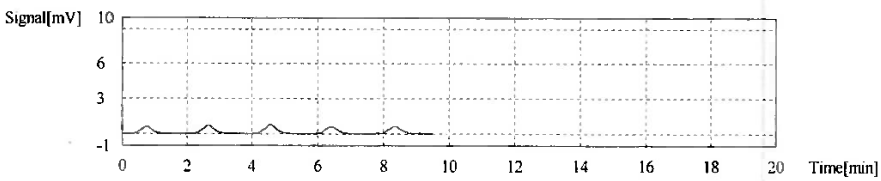
Sample Name	Untitled
Sample ID:	Untitled
Cal. Curve:	e90328w1 2019_03_28_12_56_48 cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.515	100uL	1.000	*******		3/28/2019 1:03:40 PM
2	1.654	100uL	1.000	*******		3/28/2019 1:05:55 PM
3	1.912	100uL	1.000	*******	E	3/28/2019 1:08:10 PM
4	1.508	100uL	1.000	*******		3/28/2019 1:10:25 PM
5	1.487	100uL	1.000	*******		3/28/2019 1:12:40 PM

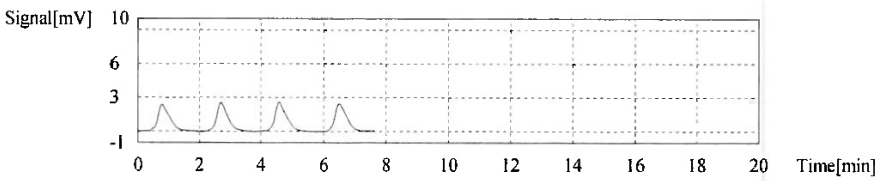
Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 1.541



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.009	100uL	1.000	*******		3/28/2019 1:17:03 PM
2	6.479	100uL	1.000	*******		3/28/2019 1:19:18 PM
3	6.308	100uL	1.000	*******		3/28/2019 1:21:33 PM
4	6.206	100uL	1.000	*******		3/28/2019 1:23:48 PM

Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 6.250



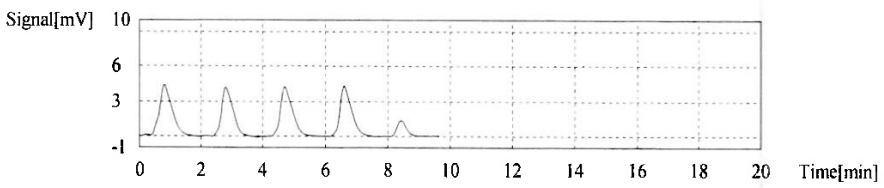
Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	12.85	100uL	1.000	*******		3/28/2019 1:28:31 PM
2	10.98	100uL	1.000	*******		3/28/2019 1:30:46 PM
3	10.96	100uL	1.000	*******		3/28/2019 1:33:01 PM
4	11.04	100uL	1.000	*******		3/28/2019 1:35:17 PM
5	2.692	100uL	1.000	*******	E	3/28/2019 1:37:32 PM

TOC-Control L Report

e90328wl toc tlx

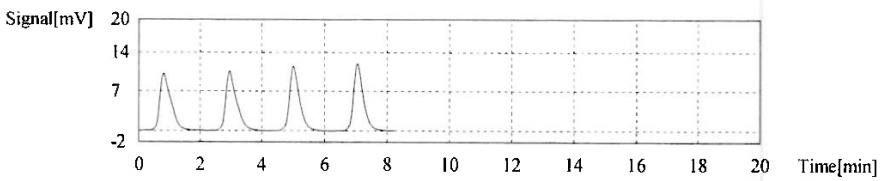
Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 11.46



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	25.54	100uL	1.000	*******		3/28/2019 1:42:10 PM
2	26.15	100uL	1.000	*******		3/28/2019 1:44:32 PM
3	25.63	100uL	1.000	*******		3/28/2019 1:46:56 PM
4	25.79	100uL	1.000	*******		3/28/2019 1:49:16 PM

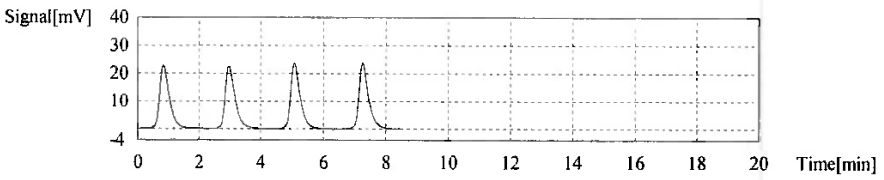
Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 25.78



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	50.01	100uL	1.000	*******		3/28/2019 1:54:08 PM
2	50.45	100uL	1.000	*******		3/28/2019 1:56:35 PM
3	50.31	100uL	1.000	*******		3/28/2019 1:59:06 PM
4	50.28	100uL	1.000	*******		3/28/2019 2:01:30 PM

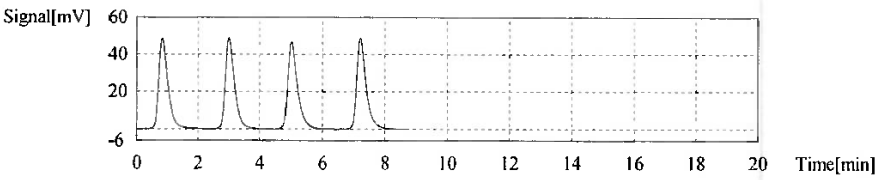
Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 50.26



Conc: 20.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	99.66	100uL	1.000	*******		3/28/2019 2:06:23 PM
2	101.0	100uL	1.000	*******		3/28/2019 2:08:46 PM
3	100.2	100uL	1.000	*******		3/28/2019 2:11:19 PM
4	100.5	100uL	1.000	*******		3/28/2019 2:13:56 PM

Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 100.3



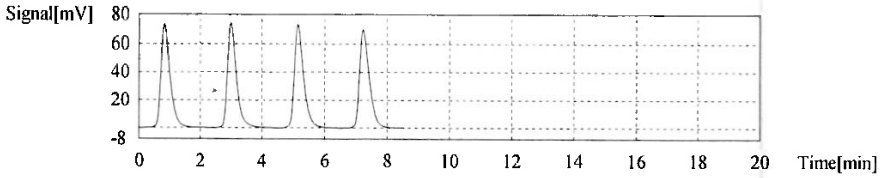
Conc: 30.00mg/L

TOC-Control L Report

e90328w1 toc tlx

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	152.7	100uL	1.000	*******		3/28/2019 2:18:49 PM
2	151.3	100uL	1.000	*******		3/28/2019 2:21:19 PM
3	152.0	100uL	1.000	*******		3/28/2019 2:23:45 PM
4	151.9	100uL	1.000	*******		3/28/2019 2:26:15 PM

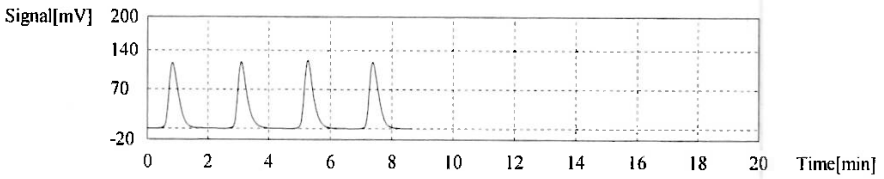
Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 152.0



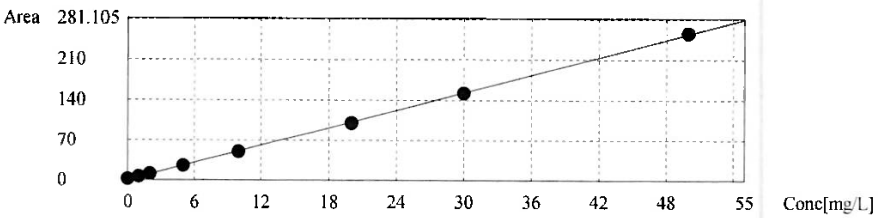
Conc 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	258.0	100uL	1.000	*******		3/28/2019 2:31:15 PM
2	255.7	100uL	1.000	*******		3/28/2019 2:33:46 PM
3	253.7	100uL	1.000	*******		3/28/2019 2:36:13 PM
4	254.8	100uL	1.000	*******		3/28/2019 2:38:40 PM

Acid Add. 0.000%
Sp. Time 600.0sec
Mean Area 255.6



Slope: 5.073
Intercept 0.5650
r^2 0.9999
r 0.9999
Zero Shift No



TOC-Control L Report

e90419w1.toc tlx

Instr.Information

Instrument Options: TOC/ASI/Sparge Kit/
Catalyst: Regular Sensitivity

Sample

Sample Name: WASHCONF
Sample ID:
Origin: TOCAQ.met
Status: Completed
Chk. Result:

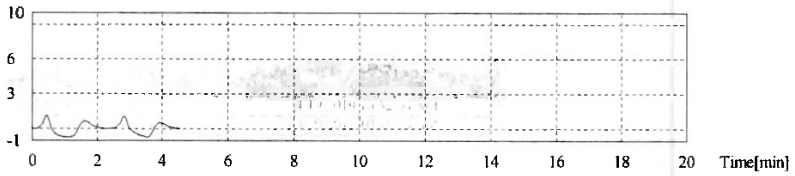
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC -0.07979mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.1668	-0.07849mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:21:27 AM
2	0.1536	-0.08109mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:23:48 AM

Mean Conc. -0.07979mg/L
CV Conc -2.31%



Sample

Sample Name: CRI
Sample ID:
Origin: TOCAQ.met
Status: Completed
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.029mg/L

1. Det

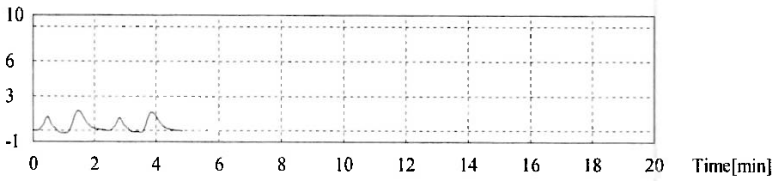
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.868	1.045mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:32:34 AM
2	5.700	1.012mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:35:14 AM

TOC-Control L Report

e90419w1.toc tlx

Mean Conc. 1.029mg/L
CV Conc 2.28%



Sample

Sample Name: HSTD
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

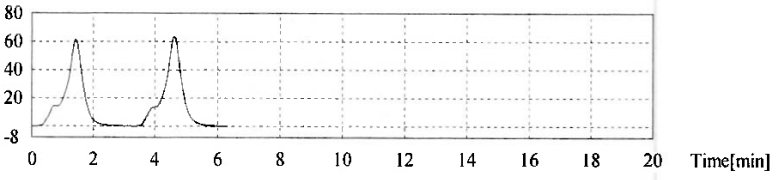
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 47.72mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	242.1	47.61mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:44:35 AM
2	243.2	47.83mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:47:52 AM

Mean Conc. 47.72mg/L
CV Conc 0.32%



Sample

Sample Name: ICV
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 18.85mg/L

1. Det

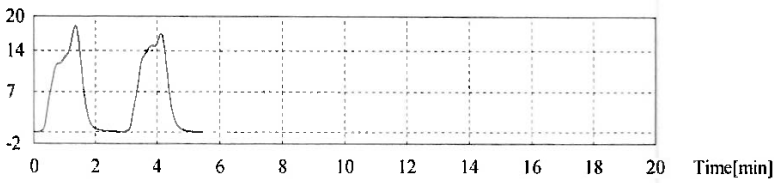
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	96.16	18.84mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:55:19 AM
2	96.23	18.86mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:58:14 AM

TOC-Control L Report

e90419w1.toc tlx

Mean Conc. 18.85mg/L
CV Conc 0.05%



Sample

Sample Name: ICB
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

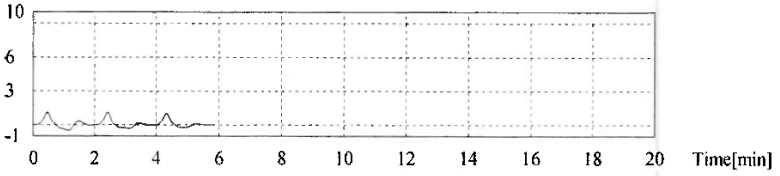
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.1077mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.172	0.1197mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:05:39 AM
2	0.9237	0.07071mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:07:48 AM
3	1.051	0.09580mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:09:53 AM

Mean Conc. 0.1077mg/L
CV Conc 15.66%



Sample

Sample Name: CCV
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 23.47mg/L

1. Det

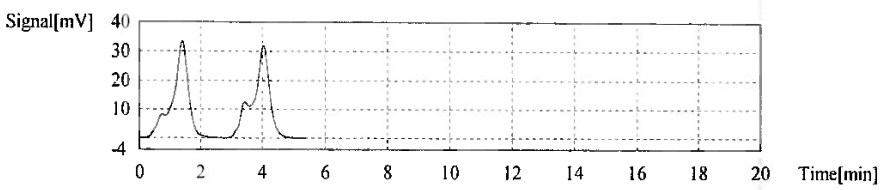
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	119.5	23.44mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:17:31 AM
2	119.8	23.50mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:20:22 AM

TOC-Control L Report

e90419w1.toc.tlx

Mean Conc 23.47mg/L
CV Conc 0.18%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

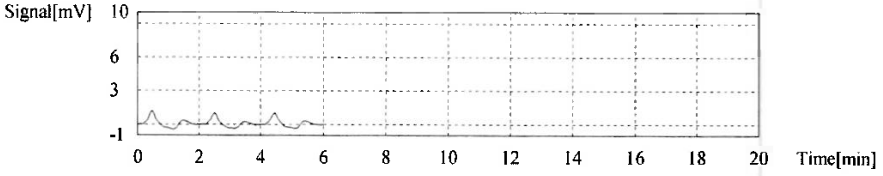
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.1310mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.214	0.1279mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 11:28:03 AM
2	0.9189	0.06976mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48.cal	4/19/2019 11:30:10 AM
3	1.245	0.1340mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 11:32:21 AM

Mean Conc. 0.1310mg/L
CV Conc 3.30%



Sample

Sample Name: SPARGERCHK
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.1128mg/L

1. Det

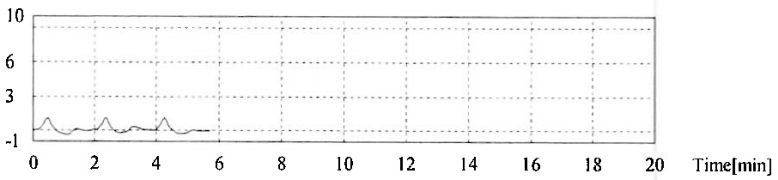
Anal.: NPOC

TOC-Control L Report

e90419w1 toc.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.153	0.1159mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:39:03 AM
2	1.398	0.1642mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:41:12 AM
3	1.121	0.1096mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:43:17 AM

Mean Conc. 0.1128mg/L
CV Conc 3.96%



Sample

Sample Name: GP20738-MB1
Sample ID: TOC
Origin: TOCAQ.met
Status Completed
Chk. Result

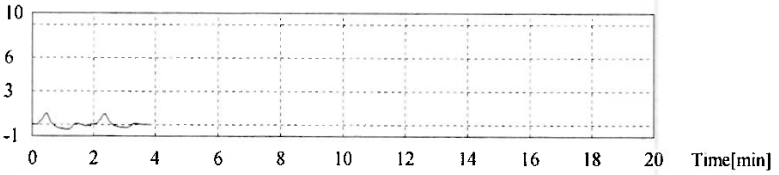
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.03192mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.7028	0.02717mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:50:13 AM
2	0.7510	0.03667mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:52:22 AM

Mean Conc. 0.03192mg/L
CV Conc 21.05%



Sample

Sample Name: GP20738-B1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 9.829mg/L

1. Det

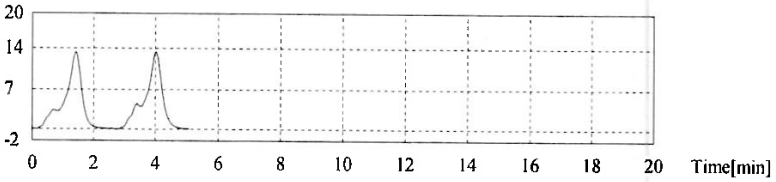
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	50.30	9.804mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 12:02:08 PM
2	50.56	9.855mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 12:04:43 PM

Mean Conc. 9.829mg/L
CV Conc 0.37%



Sample

Sample Name: JC86426-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

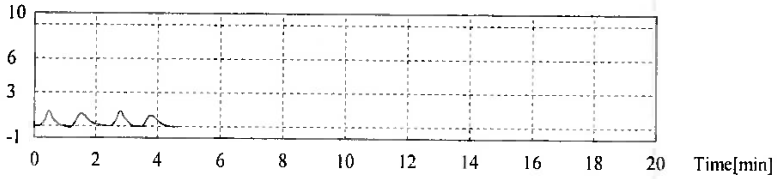
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.8246mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.692	0.8135mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:15:57 PM
2	4.805	0.8358mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:18:28 PM

Mean Conc. 0.8246mg/L
CV Conc 1.91%



Sample

Sample Name: JC86461-2
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 3.683mg/L

1. Det

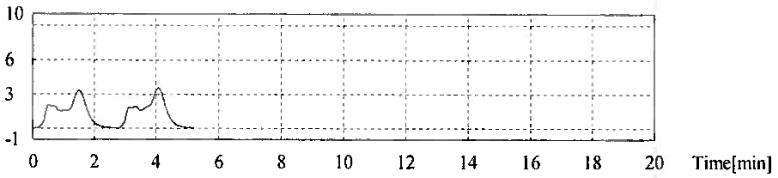
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	19.22	3.677mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:27:25 PM
2	19.28	3.689mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:30:06 PM

Mean Conc. 3.683mg/L
CV Conc 0.23%



Sample

Sample Name: GP20738-S1
Sample ID: JC86461-2
Origin: TOCAQ.met
Status Completed
Chk. Result

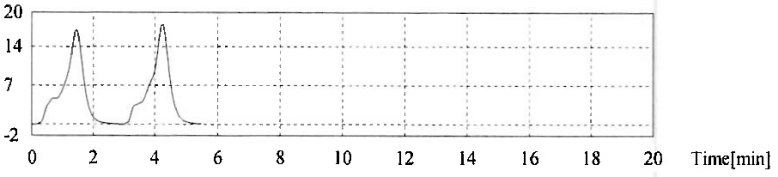
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 14.41mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	73.75	14.43mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:38:46 PM
2	73.61	14.40mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:41:37 PM

Mean Conc. 14.41mg/L
CV Conc 0.14%



Sample

Sample Name: GP20738-MSD1
Sample ID: JC86461-2
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 14.32mg/L

1. Det

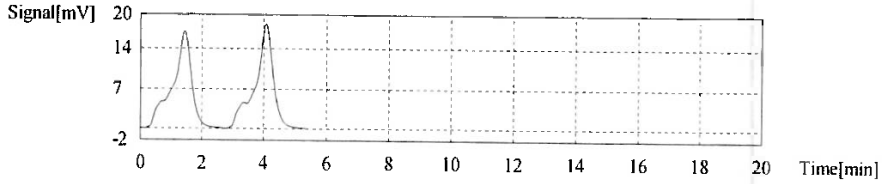
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	73.02	14.28mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:49:46 PM
2	73.37	14.35mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 2:52:41 PM

Mean Conc. 14.32mg/L
CV Conc 0.34%



Sample

Sample Name: JC86461-7
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

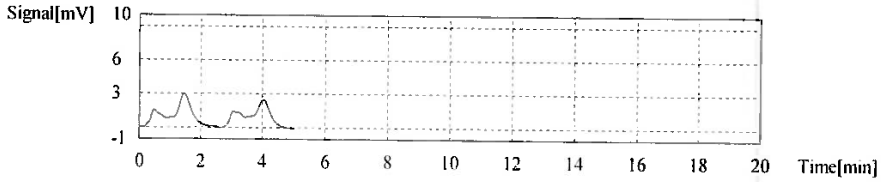
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 2.530mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.72	2.593mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:00:50 PM
2	13.08	2.467mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:03:28 PM

Mean Conc. 2.530mg/L
CV Conc 3.53%



Sample

Sample Name: JC86461-8
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.161mg/L

1. Det

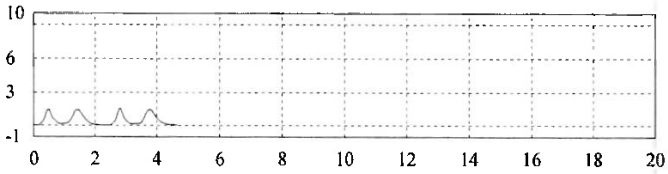
Anal.: NPOC

TOC-Control L Report

e90419w1.toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.591	1.188mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:11:45 PM
2	6.314	1.133mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:14:14 PM

Mean Conc. 1.161mg/L
CV Conc 3.33%



Sample

Sample Name: JC86037-1
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

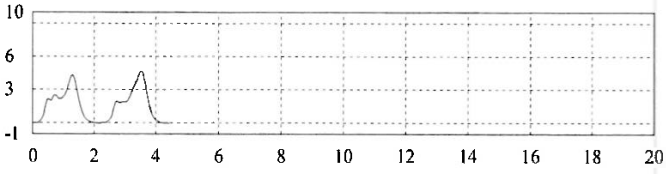
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 3.929mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	20.15	3.861mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:22:48 PM
2	20.85	3.998mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:25:15 PM

Mean Conc. 3.929mg/L
CV Conc 2.48%



Sample

Sample Name: CCVA
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 47.86mg/L

1. Det

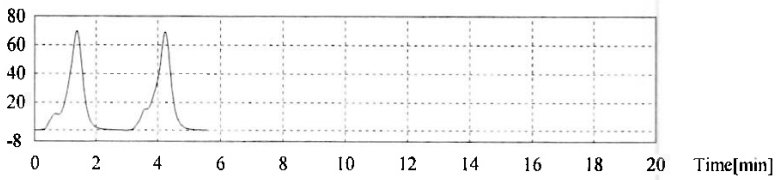
Anal.: NPOC

TOC-Control L Report

e90419w1 toc.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	243.2	47.83mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:34:36 PM
2	243.5	47.89mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:37:31 PM

Mean Conc. 47.86mg/L
CV Conc 0.09%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

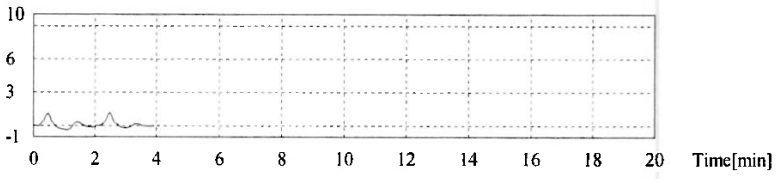
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.2167mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.663	0.2164mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:44:54 PM
2	1.666	0.2170mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3:47:03 PM

Mean Conc. 0.2167mg/L
CV Conc 0.19%



Sample

Sample Name: JC86058-1
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.5836mg/L

1. Det

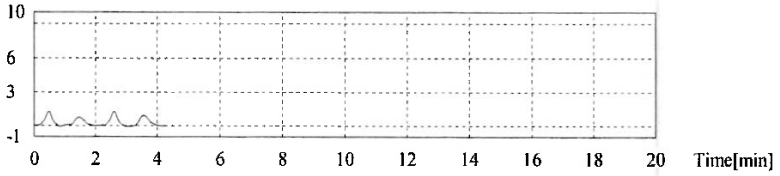
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3 463	0 5712mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3 56 10 PM
2	3 588	0 5959mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 3 58 28 PM

Mean Conc. 0.5836mg/L
CV Conc 2.99%



Sample

Sample Name: JC86059-1
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

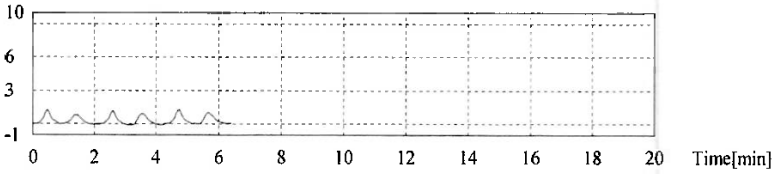
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 0 6595mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4 292	0 7347mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4 07 20 PM
2	3 944	0 6661mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4 09 44 PM
3	3 877	0 6528mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4 12 08 PM

Mean Conc. 0.6595mg/L
CV Conc 1 42%



Sample

Sample Name: JC86512-8
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 1 914mg/L

1. Det

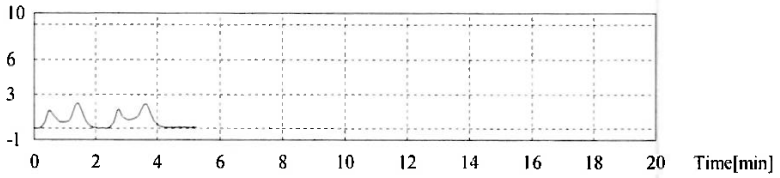
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.952	1.850mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:18:36 PM
2	10.60	1.978mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:21:47 PM

Mean Conc. 1.914mg/L
CV Conc 4.72%



Sample

Sample Name: JC86512-10
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

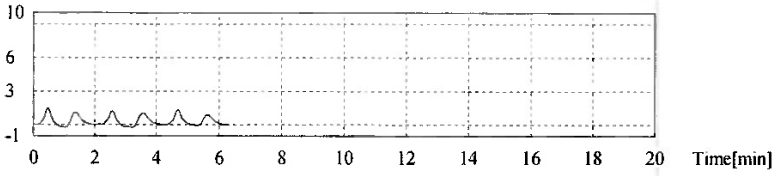
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.6117mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.045	0.6860mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:29:36 PM
2	3.558	0.5900mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:31:54 PM
3	3.778	0.6333mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:34:10 PM

Mean Conc. 0.6117mg/L
CV Conc 5.01%



Sample

Sample Name: JC86510-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.3879mg/L

1. Det

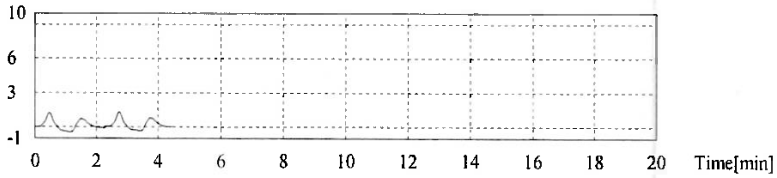
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.602	0.4015mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:40:57 PM
2	2.464	0.3743mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:43:20 PM

Mean Conc. 0.3879mg/L
CV Conc 4.96%



Sample

Sample Name: GP20739-MB1
Sample ID:
Origin: TOC
Status TOCAQ.met
Chk. Result Completed

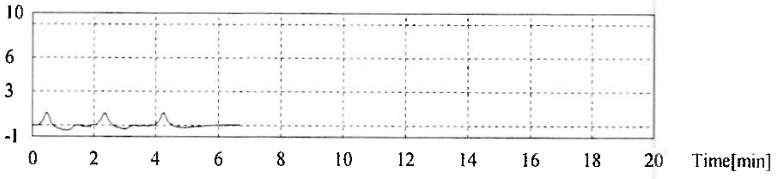
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.03081mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.7558	0.03761mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:51:43 PM
2	0.9330	0.07254mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:53:53 PM
3	0.6868	0.02401mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 4:56:56 PM

Mean Conc. 0.03081mg/L
CV Conc 31.21%



Sample

Sample Name: GP20739-B1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 9.999mg/L

1. Det

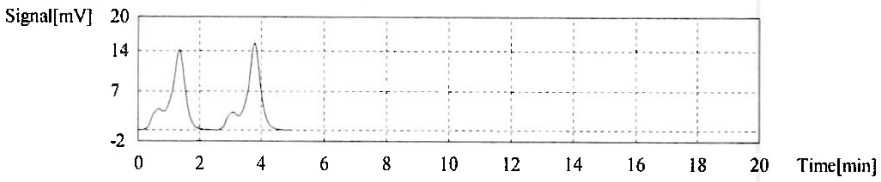
Anal.: NPOC

TOC-Control L Report

e90419w1.toc.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51.29	9.999mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 5:03:25 PM
2	51.29	9.999mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 5:06:08 PM

Mean Conc. 9.999mg/L
CV Conc 0.00%



Sample

Sample Name: JC86156-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

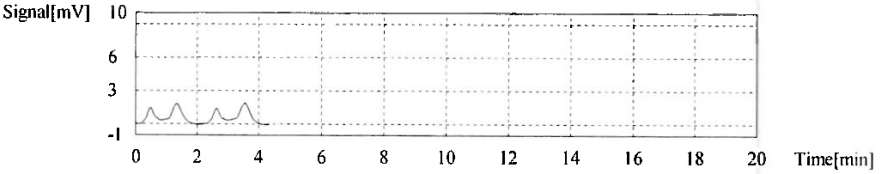
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.398mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.566	1.380mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 5:14:18 PM
2	7.751	1.416mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 5:16:43 PM

Mean Conc. 1.398mg/L
CV Conc 1.84%



Sample

Sample Name: GP20739-S1
Sample ID: JC86156-1
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 12.23mg/L

1. Det

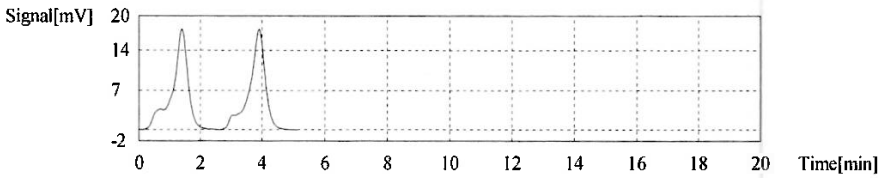
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	62.41	12.19mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5:25:48 PM
2	62.83	12.27mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5:28:34 PM

Mean Conc. 12.23mg/L
CV Conc 0.48%



Sample

Sample Name: GP20739-MSDI
Sample ID: JC86156-1
Origin: TOCAQ.met
Status Completed
Chk. Result

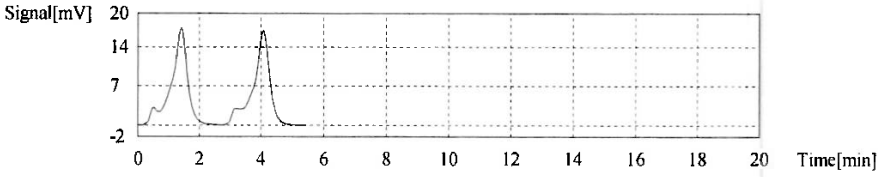
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 12.30mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	63.49	12.40mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5:37:05 PM
2	62.44	12.20mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5:40:02 PM

Mean Conc. 12.30mg/L
CV Conc 1.19%



Sample

Sample Name: CCV
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 23.41mg/L

1. Det

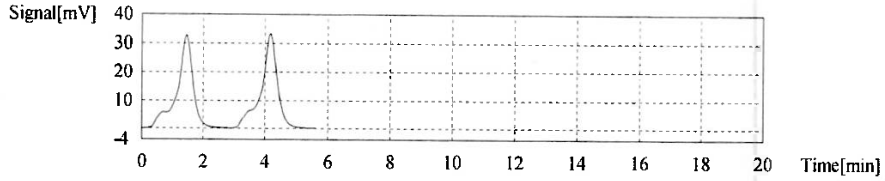
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	118 8	23 31mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5 48 23 PM
2	119 9	23 52mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 5 51 28 PM

Mean Conc. 23 41mg/L
CV Conc 0 65%



Sample

Sample Name: CCB
Sample ID:
Origin TOCAQ met
Status Completed
Chk. Result

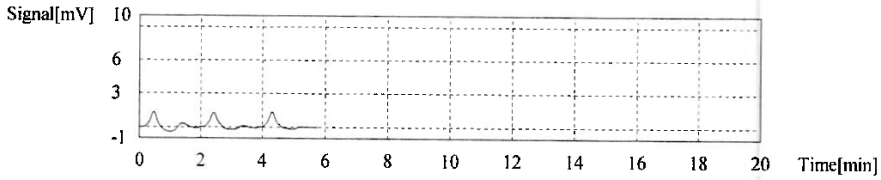
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 0 2157mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1 717	0 2271mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6 07 43 PM
2	1 875	0 2582mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6 09 52 PM
3	1 602	0 2044mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6 12 01 PM

Mean Conc. 0 2157mg/L
CV Conc 7 43%



Sample

Sample Name: JC86200-3
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 0 1460mg/L

1 Det

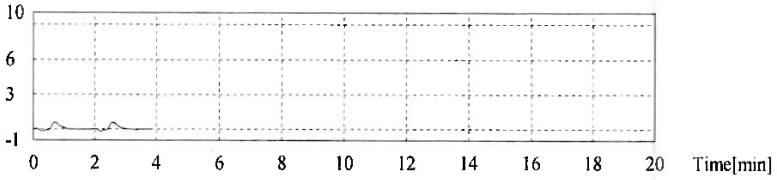
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.324	0.1496mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:18:50 PM
2	1.287	0.1423mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:21:00 PM

Mean Conc. 0.1460mg/L
CV Conc 3.53%



Sample

Sample Name: JC86251-2
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

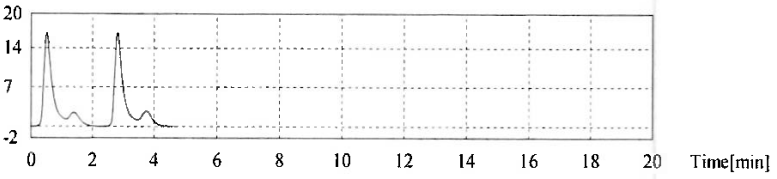
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 7.366mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	37.64	7.308mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:30:25 PM
2	38.23	7.424mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:33:02 PM

Mean Conc. 7.366mg/L
CV Conc 1.12%



Sample

Sample Name: JC86299-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.168mg/L

1. Det

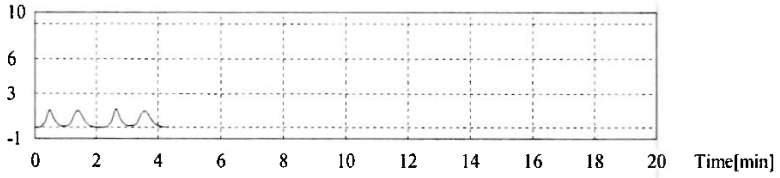
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.516	1.173mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:41:27 PM
2	6.465	1.163mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:43:52 PM

Mean Conc. 1.168mg/L
CV Conc 0.61%



Sample

Sample Name: JC86344-11
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

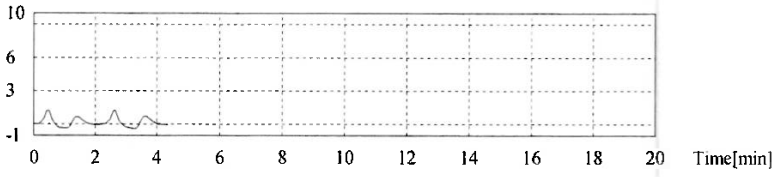
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.3627mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.484	0.3783mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:52:37 PM
2	2.326	0.3471mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 6:55:03 PM

Mean Conc. 0.3627mg/L
CV Conc 6.07%



Sample

Sample Name: JC86387-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 10.52mg/L

1. Det

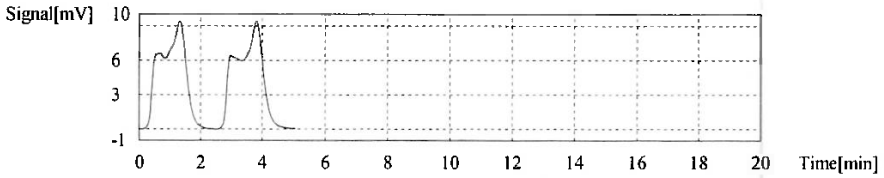
Anal.: NPOC

TOC-Control L Report

e90419w1.toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	53.41	10.42mg/L	100uL	1.000		e90328w1_2019_03_28_12_56_48.cal	4/19/2019 7:04:03 PM
2	54.47	10.63mg/L	100uL	1.000		e90328w1_2019_03_28_12_56_48.cal	4/19/2019 7:06:51 PM

Mean Conc. 10.52mg/L
CV Conc 1.40%



Sample

Sample Name: JC86387-2
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

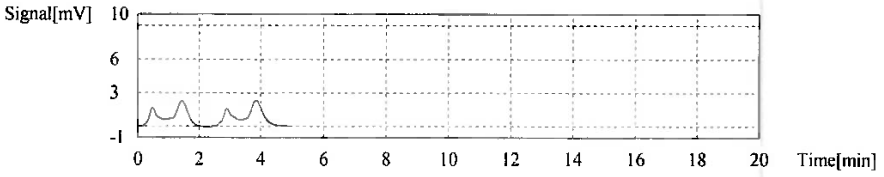
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.970mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.61	1.980mg/L	100uL	1.000		e90328w1_2019_03_28_12_56_48.cal	4/19/2019 7:15:12 PM
2	10.51	1.960mg/L	100uL	1.000		e90328w1_2019_03_28_12_56_48.cal	4/19/2019 7:17:56 PM

Mean Conc. 1.970mg/L
CV Conc 0.71%



Sample

Sample Name: JC86387-3
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.661mg/L

1. Det

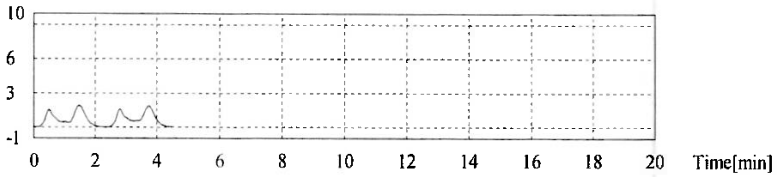
Anal.: NPOC

TOC-Control L Report

e90419w1.toc.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.994	1.661mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 7:26:16 PM
2	8.992	1.661mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 7:28:40 PM

Mean Conc. 1.661mg/L
CV Conc 0.02%



Sample

Sample Name: JC86387-4
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

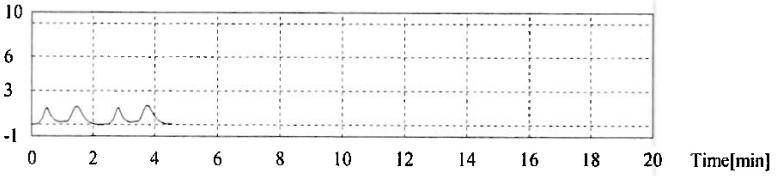
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.296mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.262	1.320mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 7:37:28 PM
2	7.020	1.272mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/19/2019 7:39:56 PM

Mean Conc. 1.296mg/L
CV Conc 2.60%



Sample

Sample Name: GP20740-MB1
Sample ID: TOC
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.2261mg/L

1. Det

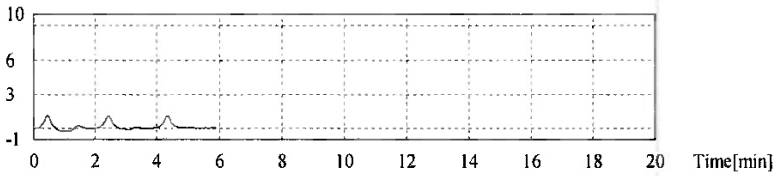
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1 398	0 1642mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 7 48 17 PM
2	1 721	0 2279mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 7 50 27 PM
3	1 703	0 2243mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 7 52 38 PM

Mean Conc. 0.2261mg/L
CV Conc 1.11%



Sample

Sample Name: GP20740-B1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

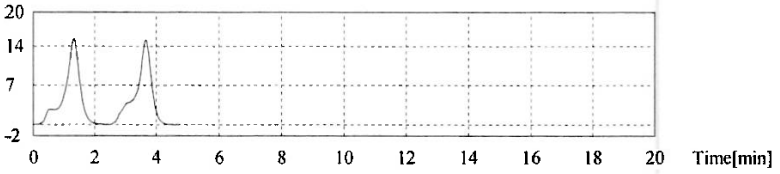
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 9.933mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51 00	9 942mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 7 59 48 PM
2	50 91	9 924mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8 02 23 PM

Mean Conc. 9.933mg/L
CV Conc 0.13%



Sample

Sample Name: CCVA
Sample ID:
Origin. TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 47.51mg/L

1. Det

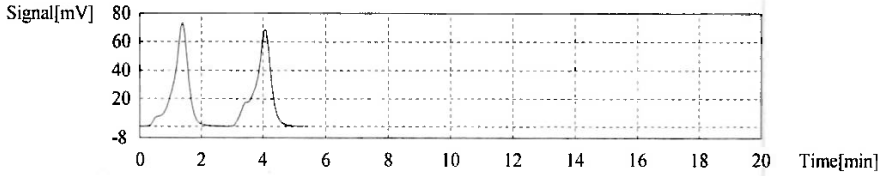
Anal.: NPOC

TOC-Control L Report

e90419wl.toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	240.6	47.31mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/19/2019 8:11:21 PM
2	242.6	47.71mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/19/2019 8:14:10 PM

Mean Conc. 47.51mg/L
CV Conc 0.59%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

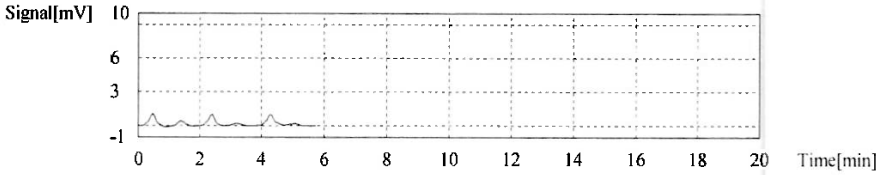
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.2652mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.195	0.3213mg/L	100uL	1.000	E	e90328wl 2019_03_28_12_56_48 cal	4/19/2019 8:21:44 PM
2	1.909	0.2649mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/19/2019 8:23:49 PM
3	1.912	0.2655mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/19/2019 8:25:54 PM

Mean Conc. 0.2652mg/L
CV Conc 0.16%



Sample

Sample Name: JC86344-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.7734mg/L

1. Det

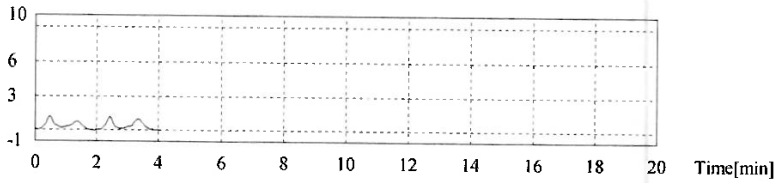
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.465	0.7688mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:32:56 PM
2	4.512	0.7780mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:35:17 PM

Mean Conc. 0.7734mg/L
CV Conc 0.85%



Sample

Sample Name: JC86344-2
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

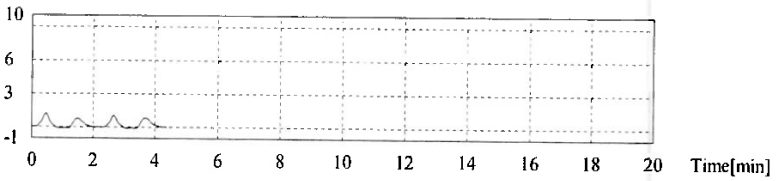
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.5110mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.116	0.5028mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:44:21 PM
2	3.199	0.5192mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8:46:47 PM

Mean Conc. 0.5110mg/L
CV Conc 2.26%



Sample

Sample Name: JC86344-3
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.4836mg/L

1. Det

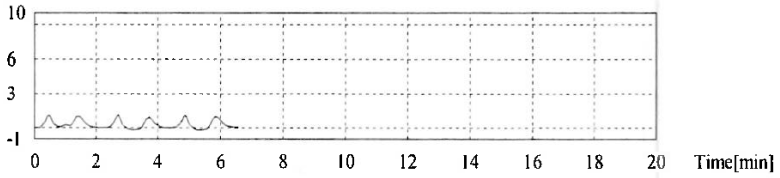
Anal.: NPOC

TOC-Control L Report

e90419w1 toc tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4 699	0 8149mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8 55 34 PM
2	3 075	0 4948mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 8 57 54 PM
3	2 962	0 4725mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9 00 15 PM

Mean Conc. 0.4836mg/L
CV Conc 3.26%



Sample

Sample Name: JC86344-4
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

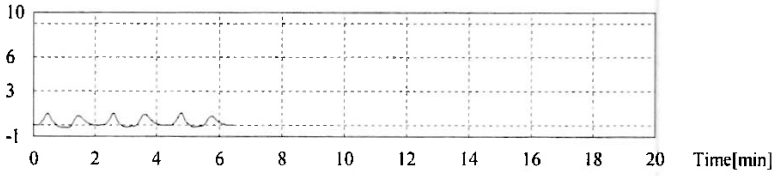
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 0 4615mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3 012	0 4823mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9 06 38 PM
2	3 256	0 5304mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9 09 03 PM
3	2 801	0 4408mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9 11 21 PM

Mean Conc. 0.4615mg/L
CV Conc 6.37%



Sample

Sample Name: JC86344-5
Sample ID:
Origin TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1 000	NPOC 0 3479mg/L

1. Det

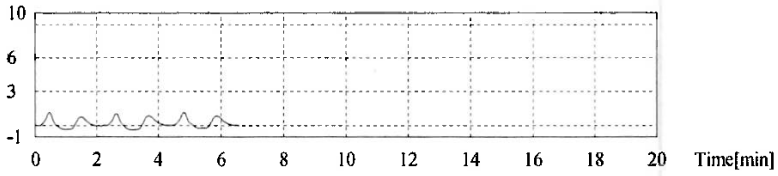
TOC-Control L Report

e90419w1.toc.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.456	0.3727mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:17:50 PM
2	2.204	0.3231mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:20:15 PM
3	2.910	0.4622mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:22:39 PM

Mean Conc. 0.3479mg/L
CV Conc 10.10%



Sample

Sample Name: JC86344-6
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

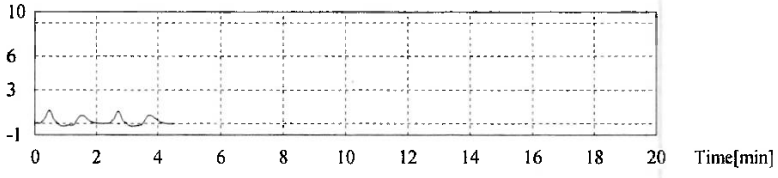
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.4335mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.734	0.4275mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:29:04 PM
2	2.794	0.4394mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:31:32 PM

Mean Conc. 0.4335mg/L
CV Conc 1.93%



Sample

Sample Name: GP20740-S1
Sample ID: JC86344-6
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 11.59mg/L

1. Det

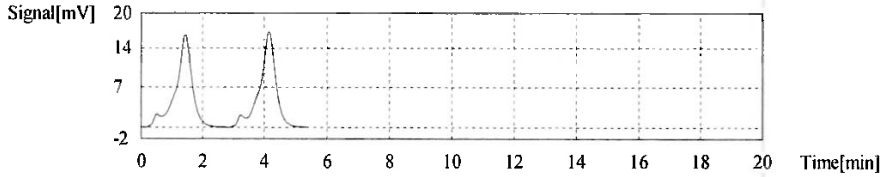
TOC-Control L Report

e90419w1.toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	59.14	11.55mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:40:43 PM
2	59.56	11.63mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:43:33 PM

Mean Conc. 11.59mg/L
CV Conc 0.51%



Sample

Sample Name: GP20740-MSD1
Sample ID: JC86344-6
Origin: TOCAQ.met
Status Completed
Chk. Result

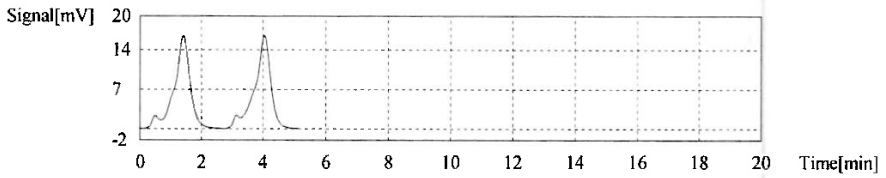
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 11.68mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	59.57	11.63mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:51:48 PM
2	60.05	11.73mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 9:54:29 PM

Mean Conc. 11.68mg/L
CV Conc 0.57%



Sample

Sample Name: JC86344-7
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.6715mg/L

1. Det

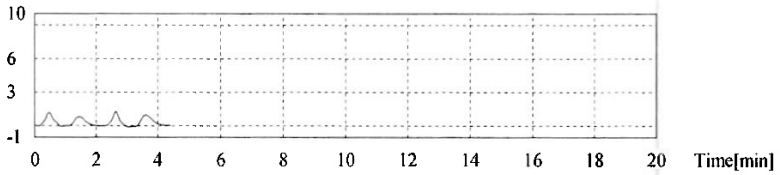
TOC-Control L Report

e90419w1.toc tlx

Anal.: NPOC

No	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.005	0.6781mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:02:31 PM
2	3.938	0.6649mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:05:00 PM

Mean Conc. 0.6715mg/L
CV Conc 1.39%



Sample

Sample Name: JC86344-8
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

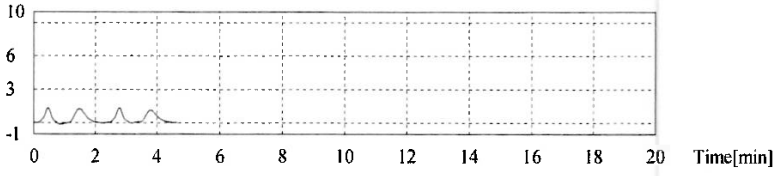
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.8375mg/L

1. Det

Anal.: NPOC

No	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.911	0.8567mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:13:49 PM
2	4.717	0.8184mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:16:23 PM

Mean Conc. 0.8375mg/L
CV Conc 3.23%



Sample

Sample Name: CCV
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 23.47mg/L

1. Det

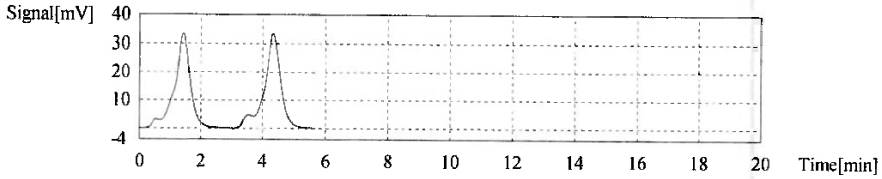
TOC-Control L Report

e90419w1 toc tlx

Anal. NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	119.5	23.44mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:25:36 PM
2	119.8	23.50mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:28:35 PM

Mean Conc. 23.47mg/L
CV Conc 0.18%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

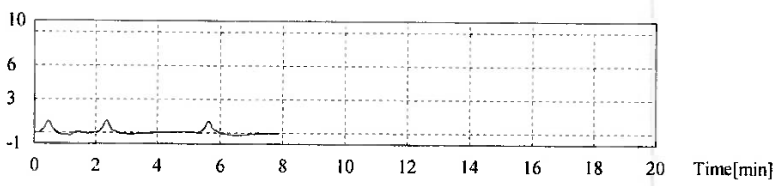
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.03570mg/L

1. Det

Anal. NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.380	0.1607mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:48:14 PM
2	0.8413	0.05447mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:51:45 PM
3	0.6509	0.01693mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:54:42 PM

Mean Conc. 0.03570mg/L
CV Conc 74.34%



Sample

Sample Name: JC86344-9
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.7283mg/L

1. Det

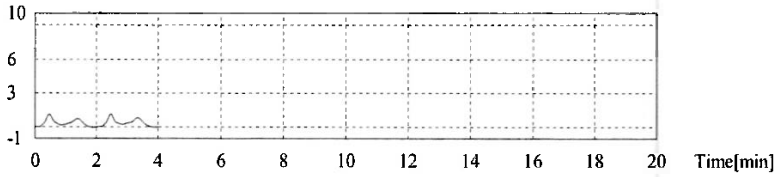
TOC-Control L Report

e90419w1.toc.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.243	0.7250mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 10:59:31 PM
2	4.277	0.7317mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:01:45 PM

Mean Conc. 0.7283mg/L
CV Conc 0.65%



Sample

Sample Name: JC86344-10
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

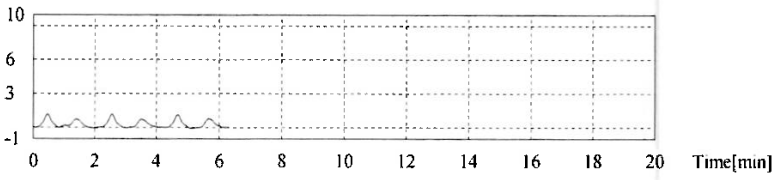
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.5123mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.829	0.6434mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:10:48 PM
2	3.197	0.5188mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:13:10 PM
3	3.131	0.5058mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:15:27 PM

Mean Conc. 0.5123mg/L
CV Conc 1.80%



Sample

Sample Name: GP20741-MB1
Sample ID: TOC
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.1831mg/L

1. Det

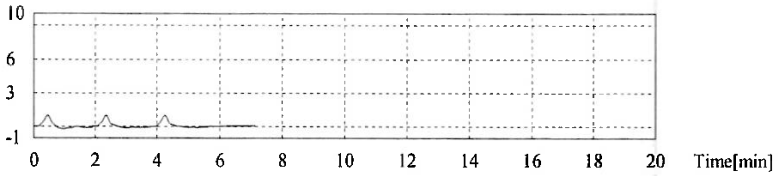
TOC-Control L Report

e90419w1.toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.316	0.1480mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:21:47 PM
2	1.672	0.2182mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:23:56 PM
3	0.9585	0.07757mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:27:26 PM

Mean Conc. 0.1831mg/L
CV Conc 27.10%



Sample

Sample Name: GP20741-B1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

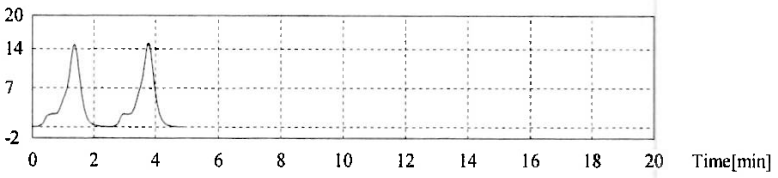
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 9.915mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	50.68	9.878mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:33:30 PM
2	51.05	9.951mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:36:07 PM

Mean Conc. 9.915mg/L
CV Conc 0.52%



Sample

Sample Name: JC86461-3
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 2.795mg/L

1. Det

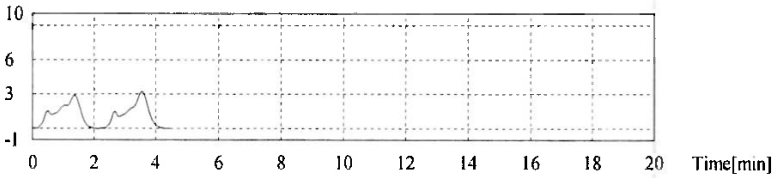
TOC-Control L Report

e90419w1.toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.72	2.790mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:44:26 PM
2	14.77	2.800mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:46:56 PM

Mean Conc. 2.795mg/L
CV Conc 0.25%



Sample

Sample Name: JC86461-4
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

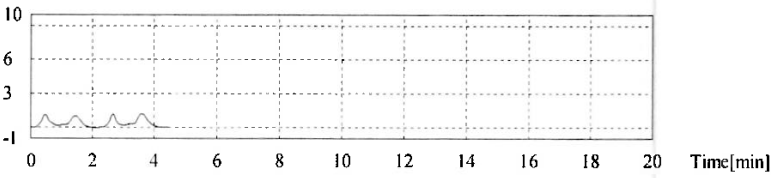
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.8896mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.134	0.9006mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:55:39 PM
2	5.022	0.8785mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/19/2019 11:58:09 PM

Mean Conc. 0.8896mg/L
CV Conc 1.75%



Sample

Sample Name: JC86461-5
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 1.531mg/L

1. Det

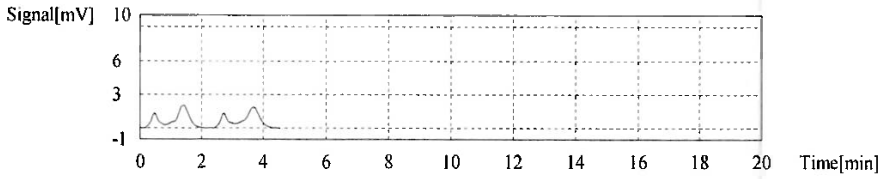
TOC-Control L Report

e90419w1.toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.266	1.518mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/20/2019 12:06:52 AM
2	8.399	1.544mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/20/2019 12:09:20 AM

Mean Conc. 1.531mg/L
CV Conc 1.21%



Sample

Sample Name: GP20741-S1
Sample ID: JC86461-5
Origin: TOCAQ.met
Status Completed
Chk. Result

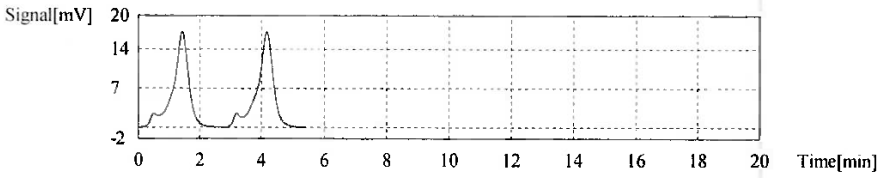
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 11.88mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	60.63	11.84mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/20/2019 12:18:30 AM
2	61.02	11.92mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48.cal	4/20/2019 12:21:23 AM

Mean Conc. 11.88mg/L
CV Conc 0.46%



Sample

Sample Name: GP20741-MSD1
Sample ID: JC86461-5
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 12.31mg/L

1. Det

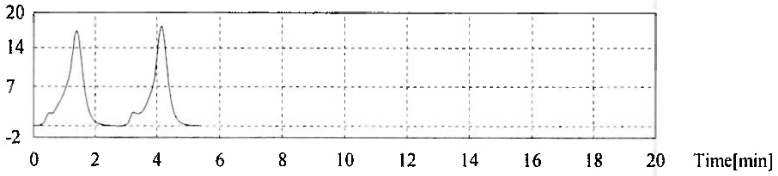
TOC-Control L Report

e90419w1.toc.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	64.37	12.58mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12:29:43 AM
2	61.67	12.04mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12:32:35 AM

Mean Conc. 12.31mg/L
CV Conc 3.06%



Sample

Sample Name: JC86461-6
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

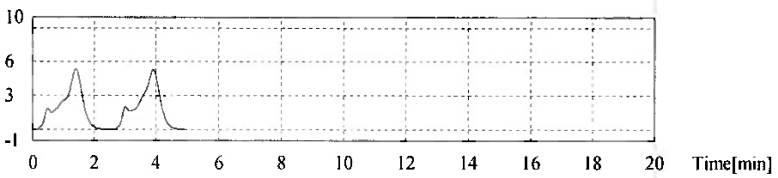
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 4.729mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	24.46	4.710mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12:40:41 AM
2	24.65	4.748mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12:43:16 AM

Mean Conc. 4.729mg/L
CV Conc 0.56%



Sample

Sample Name: CCVA
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 47.55mg/L

1. Det

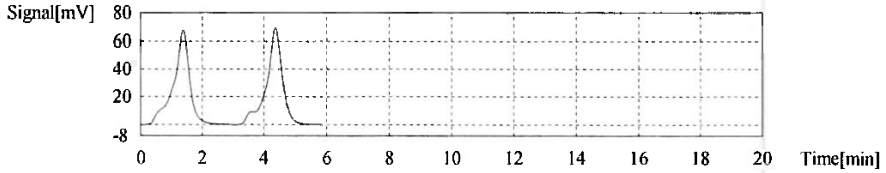
TOC-Control L Report

e90419w1 toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	242 1	47 61mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12 52 19 AM
2	241 5	47 49mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 12 55 24 AM

Mean Conc. 47.55mg/L
CV Conc 0.18%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

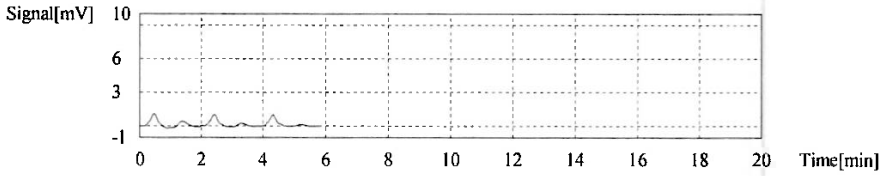
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0 2496mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2 167	0 3158mg/L	100uL	1 000	E	e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1 02 30 AM
2	1 768	0 2371mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1 04 39 AM
3	1 894	0 2620mg/L	100uL	1 000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1 06 44 AM

Mean Conc. 0.2496mg/L
CV Conc 7.04%



Sample

Sample Name: JC86461-9
Sample ID:
Origin: TOCAQ met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 2 465mg/L

1. Det

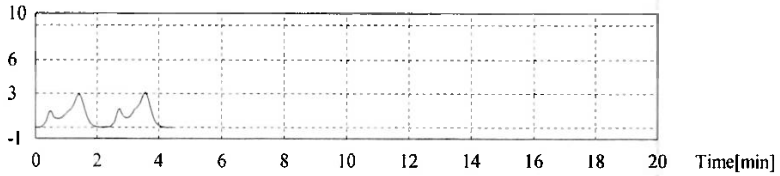
TOC-Control L Report

e90419w1 toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.11	2.473mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:13:57 AM
2	13.03	2.457mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:16:20 AM

Mean Conc. 2.465mg/L
CV Conc 0.45%



Sample

Sample Name: JC86461-10
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

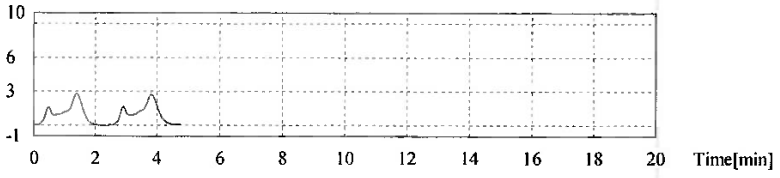
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 2.369mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.72	2.396mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:25:20 AM
2	12.45	2.343mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 1:27:55 AM

Mean Conc. 2.369mg/L
CV Conc 1.59%



Sample

Sample Name: JC86398-1
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 11.03mg/L

1. Det

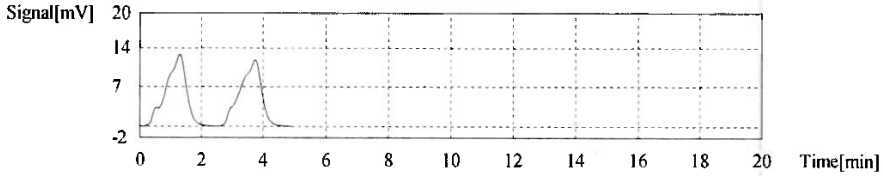
TOC-Control L Report

e90419wl.toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	57.46	11.21mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 1:36:31 AM
2	55.61	10.85mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 1:39:09 AM

Mean Conc. 11.03mg/L
CV Conc 2.34%



Sample

Sample Name: JC86398-2
Sample ID:
Origin TOCAQ.met
Status Completed
Chk. Result

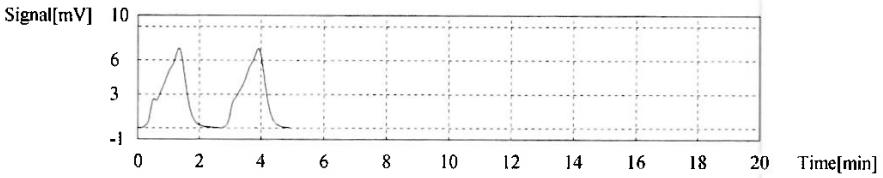
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 6.819mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	35.20	6.827mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 1:47:52 AM
2	35.12	6.811mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 1:50:21 AM

Mean Conc. 6.819mg/L
CV Conc 0.16%



Sample

Sample Name: CCV
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 23.62mg/L

1. Det

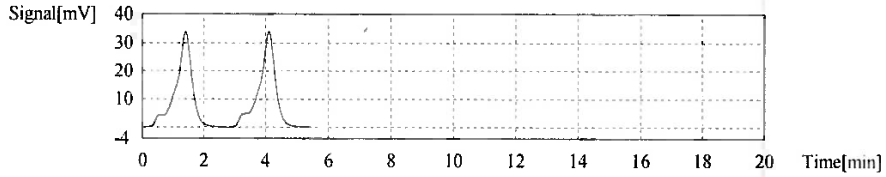
TOC-Control L Report

e90419wl toc tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	120.1	23.56mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 1:59:09 AM
2	120.7	23.68mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 2:02:09 AM

Mean Conc. 23.62mg/L
CV Conc 0.35%



Sample

Sample Name: CCB
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

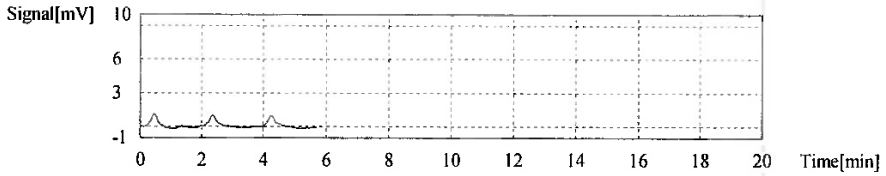
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.2544mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.366	0.1579mg/L	100uL	1.000	E	e90328wl 2019_03_28_12_56_48 cal	4/20/2019 2:18:04 AM
2	1.768	0.2371mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 2:20:13 AM
3	1.943	0.2716mg/L	100uL	1.000		e90328wl 2019_03_28_12_56_48 cal	4/20/2019 2:22:18 AM

Mean Conc 0.2544mg/L
CV Conc 9.59%



Sample

Sample Name: SPARGERCHK
Sample ID:
Origin: TOCAQ.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC 0.2567mg/L

1. Det

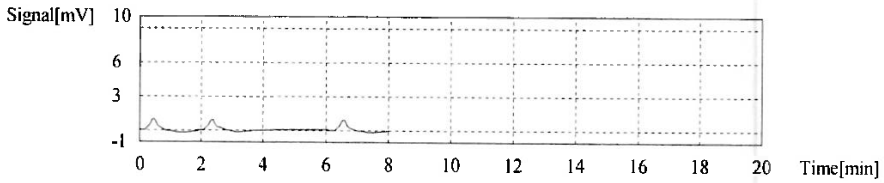
TOC-Control L Report

e90419w1.toc.tfx

Anal: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.910	0.2651mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 2:29:14 AM
2	1.020	0.08969mg/L	100uL	1.000	E	e90328w1 2019_03_28_12_56_48 cal	4/20/2019 2:33:41 AM
3	1.825	0.2484mg/L	100uL	1.000		e90328w1 2019_03_28_12_56_48 cal	4/20/2019 2:35:50 AM

Mean Conc. 0.2567mg/L
CV Conc 4.61%



13.7
13

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: E041919W1.NO32 Date Analyzed: 04/19/19 Methods: EPA 353.2/LACHAT
Analyst: KI Run ID: GN94330

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: KI Date 4/19/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date _____

E041919w1 NO32

GN 94330

Author: Chemistry

Date : 4/19/2019

Original Run Filename: OM_4-19-2019_12-07-59PM.OMN Created: 4/19/2019 12:07:59 PM
Original Run Author's Signature: [Chemistry]
Current Run Filename: OM_4-19-2019_12-07-59PM.OMN Last Modified: 4/19/2019 1:33:11 PM
Current Run Author's Signature: [Chemistry]
Description: Default New Run

Sample	Rep.	Cup No.	Channel 1 NO32 (mg/L)	Detection Time	MDF	
STDA	1	S1	5.00	4/19/2019@12:08:55 PM		
STDB	1	S2	2.50	4/19/2019@12:10:03 PM		
STDC	1	S3	1.00	4/19/2019@12:11:10 PM		
STDD	1	S4	0.500	4/19/2019@12:12:18 PM		
STDE	1	S5	0.200	4/19/2019@12:13:25 PM		
STDF	1	S6	0.100	4/19/2019@12:14:32 PM		
STDG	1	S7	0.00	4/19/2019@12:15:39 PM		
EFFCHK	1	1	2.12	4/19/2019@12:16:47 PM		
	Known Conc:		2.00			W6
	Calibration:		Table/Fig. : 1			
ICV	1	2	2.08	4/19/2019@12:17:55 PM		
	Known Conc:		2.00			W4
ICB	1	3	-0.0218	4/19/2019@12:19:03 PM		
	Known Conc:		0.00			
CCV	1	S9	2.65	4/19/2019@12:20:10 PM		
	Known Conc:		2.50			W6
CCB	1	S10	-0.0664	4/19/2019@12:21:18 PM		
	Known Conc:		0.00			
GP20728-MB1	1	4	-0.0782	4/19/2019@12:22:26 PM		
JC85413-15A	1	5	0.0529	4/19/2019@12:23:33 PM		
GP20729-MB1	1	6	-0.0580	4/19/2019@12:24:41 PM		
GP20729-B1	1	7	2.02	4/19/2019@12:25:48 PM		I01
GP20729-S1 (2)	1	8	7.16	4/19/2019@12:26:56 PM		overrange, see rerun
GP20729-S2	1	9	1.75	4/19/2019@12:28:03 PM		
GP20729-D1 (2)	1	10	6.73	4/19/2019@12:29:10 PM		overrange, see rerun
JC86521-4	1	11	6.73	4/19/2019@12:30:17 PM		
JC86521-7	1	12	0.237	4/19/2019@12:31:24 PM		
JC86521-6A (2)	1	13	5.19	4/19/2019@12:32:31 PM		overrange see rerun
CCV	1	S9	2.66	4/19/2019@12:33:38 PM		
	Known Conc:		2.50			W6.4
CCB	1	S10	-0.0542	4/19/2019@12:34:46 PM		
	Known Conc:		0.00			
JC86426-1	1	14	0.491	4/19/2019@12:35:53 PM		
JC86461-2	1	15	0.124	4/19/2019@12:37:00 PM		
JC86461-7	1	16	2.23	4/19/2019@12:38:07 PM		
JC86461-8	1	17	0.599	4/19/2019@12:39:15 PM		
JC86397-7	1	18	0.894	4/19/2019@12:40:23 PM		
JC86397-8	1	19	-0.0171	4/19/2019@12:41:31 PM		
JC86397-9	1	20	-9.91e-3	4/19/2019@12:42:39 PM		
JC86449-1	1	21	1.73	4/19/2019@12:43:46 PM		
JC86512-8	1	22	2.57	4/19/2019@12:44:54 PM		
JC86512-10	1	23	1.69	4/19/2019@12:46:01 PM		
CCV	1	S9	2.67	4/19/2019@12:47:08 PM		
	Known Conc:		2.50			W6.8
CCB	1	S10	-0.0543	4/19/2019@12:48:16 PM		
	Known Conc:		0.00			
JC86616-1	1	24	0.0534	4/19/2019@12:49:23 PM		
JC86616-2	1	25	2.34	4/19/2019@12:50:30 PM		
JC86616-3	1	26	1.81	4/19/2019@12:51:37 PM		
JC86616-4	1	27	-0.0513	4/19/2019@12:52:44 PM		
JC86616-5	1	28	0.455	4/19/2019@12:53:51 PM		
JC86616-6	1	29	1.88	4/19/2019@12:54:58 PM		
JC86616-8	1	30	0.0783	4/19/2019@12:56:05 PM		
GP20731-MB1	1	31	-0.0643	4/19/2019@12:57:12 PM		
GP20731-B1	1	32	2.06	4/19/2019@12:58:20 PM		W3
GP20731-S1	1	33	1.71	4/19/2019@12:59:28 PM		
CCV	1	S9	2.67	4/19/2019@1:00:35 PM		
	Known Conc:		2.50			W6.8
CCB	1	S10	-0.0570	4/19/2019@1:01:43 PM		
	Known Conc:		0.00			

Author: Chemistry

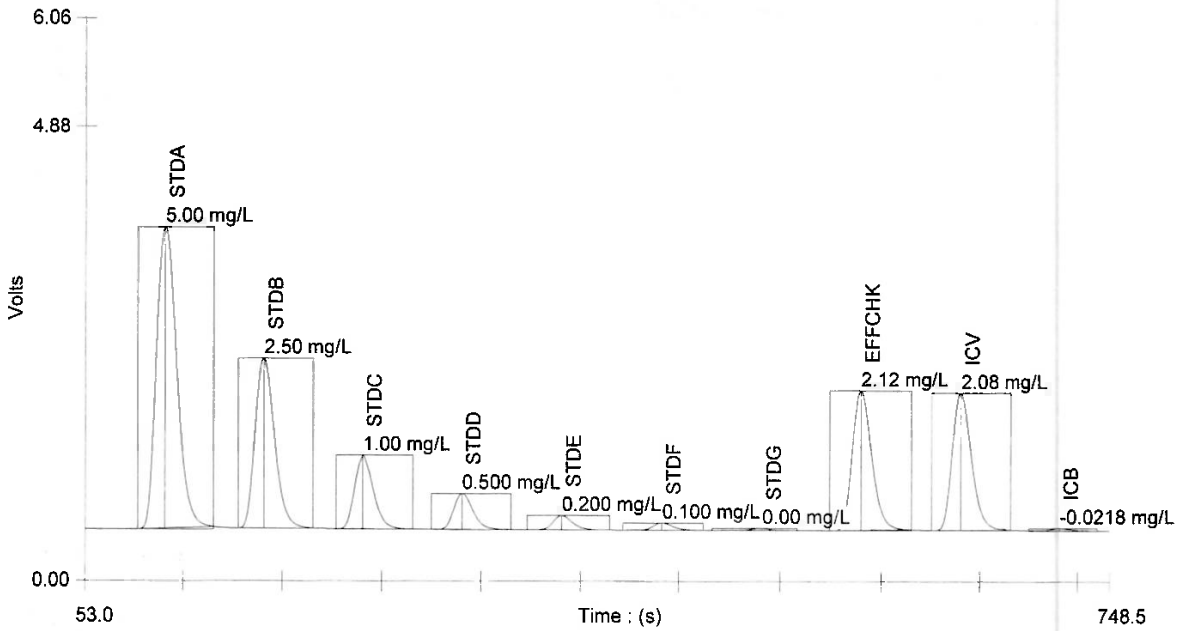
Date : 4/19/2019

GP20731-S2	1	34	3.12	4/19/2019@1:02:51 PM	
GP20731-D1	1	35	0.742	4/19/2019@1:03:58 PM	
JC86616-9	1	36	0.777	4/19/2019@1:05:06 PM	
JC86616-10	1	37	2.16	4/19/2019@1:06:14 PM	
JC86616-11	1	38	1.60	4/19/2019@1:07:21 PM	
JC86616-16	1	39	-0.0121	4/19/2019@1:08:28 PM	
JC86461-3	1	40	0.732	4/19/2019@1:09:35 PM	
JC86461-4	1	41	1.70	4/19/2019@1:10:42 PM	
JC86461-5	1	42	2.35	4/19/2019@1:11:49 PM	
JC86461-6	1	43	1.32	4/19/2019@1:12:56 PM	
CCV	1	S9	2.65	4/19/2019@1:14:03 PM	
	Known Conc:		2.50		
CCB	1	S10	-0.0556	4/19/2019@1:15:11 PM	
	Known Conc:		0.00		
JC86461-9	1	44	1.58	4/19/2019@1:16:18 PM	
JC86461-10	1	45	0.169	4/19/2019@1:17:25 PM	
JC86492-2	1	46	4.16	4/19/2019@1:18:32 PM	
GP20729-S1	1	47	4.07	4/19/2019@1:19:40 PM	2.00
GP20729-S1	1	48	2.19	4/19/2019@1:20:48 PM	4.00
GP20729-D1	1	49	3.78	4/19/2019@1:21:56 PM	2.00
GP20729-D1	1	50	1.94	4/19/2019@1:23:04 PM	4.00
JC86521-4	1	51	3.84	4/19/2019@1:24:11 PM	2.00
JC86521-4	1	52	1.98	4/19/2019@1:25:19 PM	4.00
JC86521-6A	1	53	1.69	4/19/2019@1:26:26 PM	3.00
CCV	1	S9	2.66	4/19/2019@1:29:37 PM	
	Known Conc:		2.50		
CCB	1	S10	-0.0610	4/19/2019@1:30:45 PM	
	Known Conc:		0.00		

106

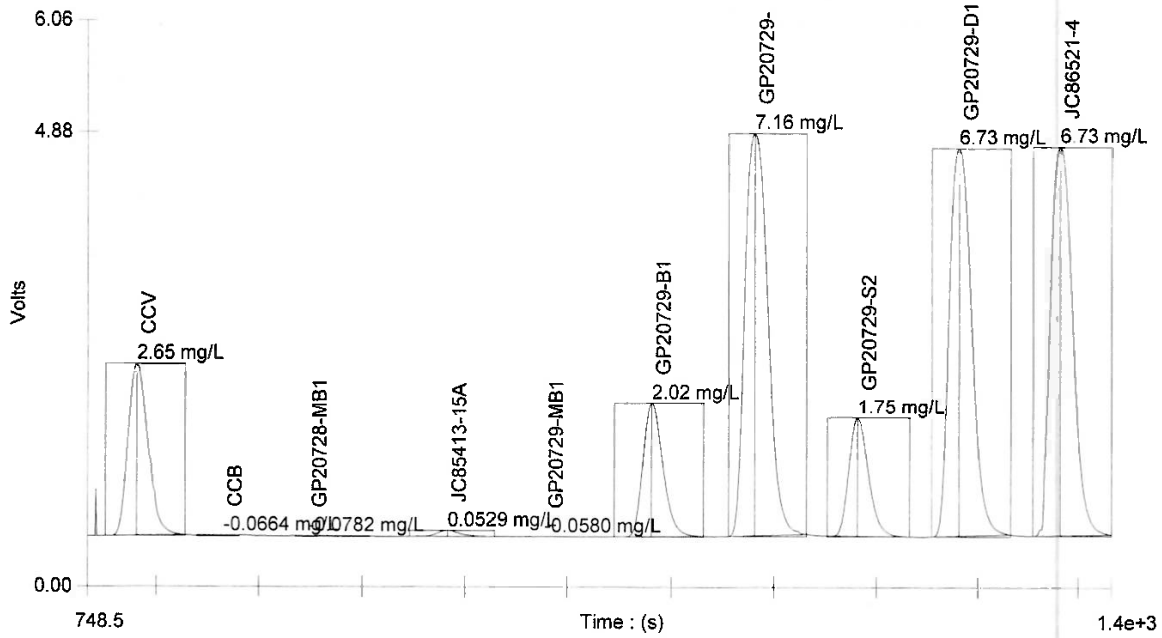
106.4

Channel 1 - Set: 1 / 8

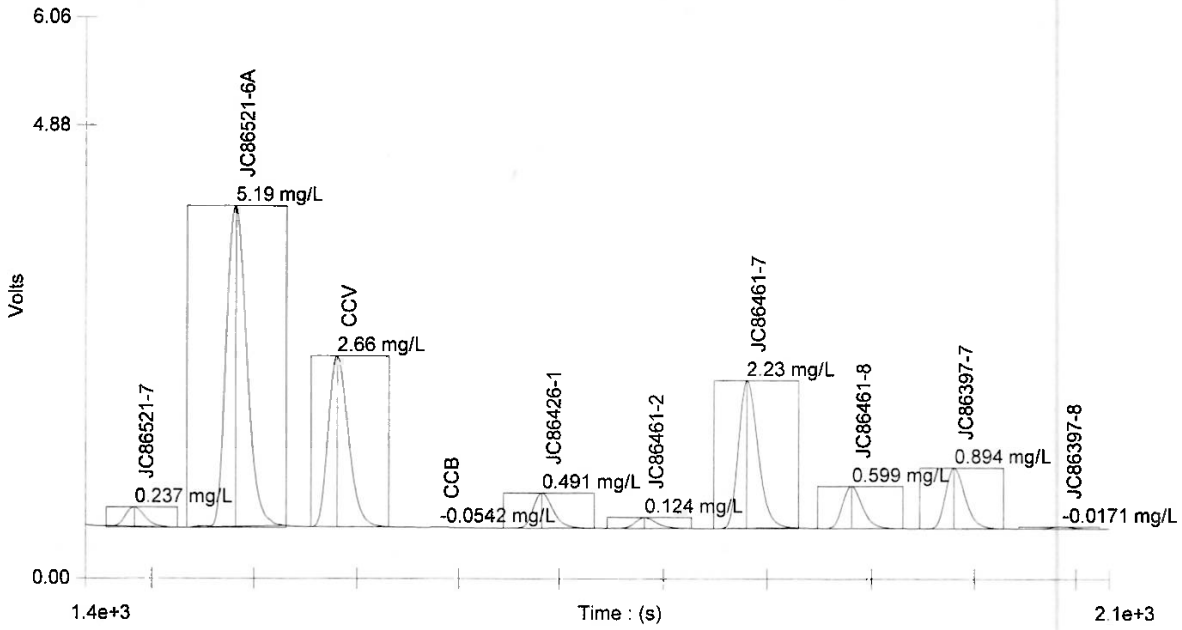


Author: Chemistry Date : 4/19/2019

Channel 1 - Set: 2 / 8

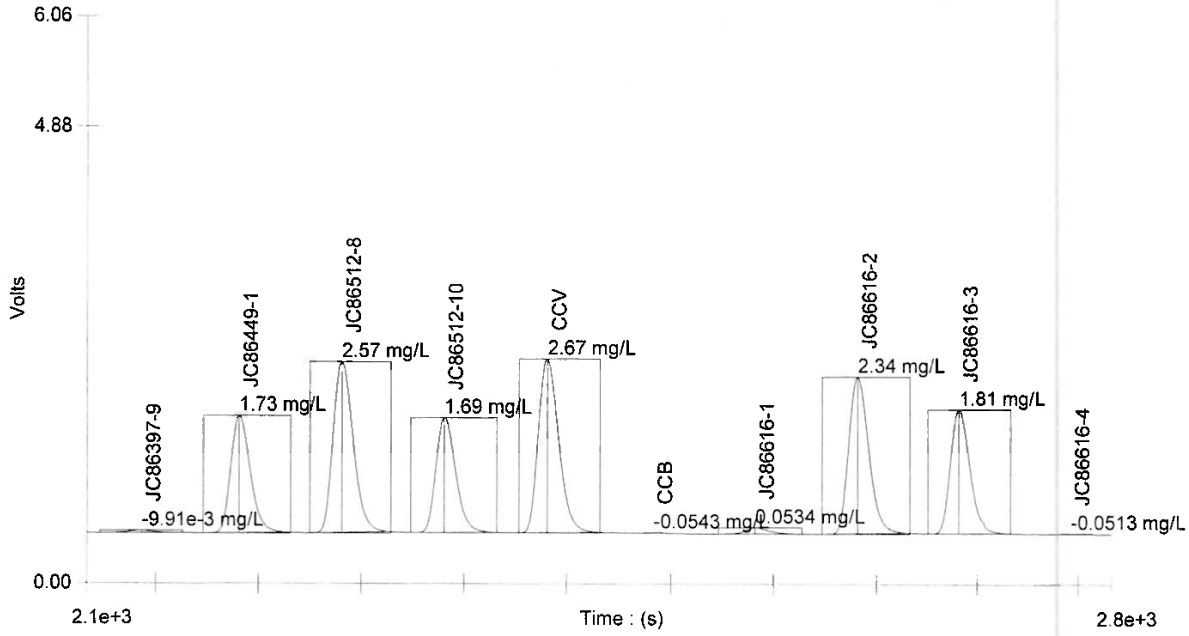


Channel 1 - Set: 3 / 8

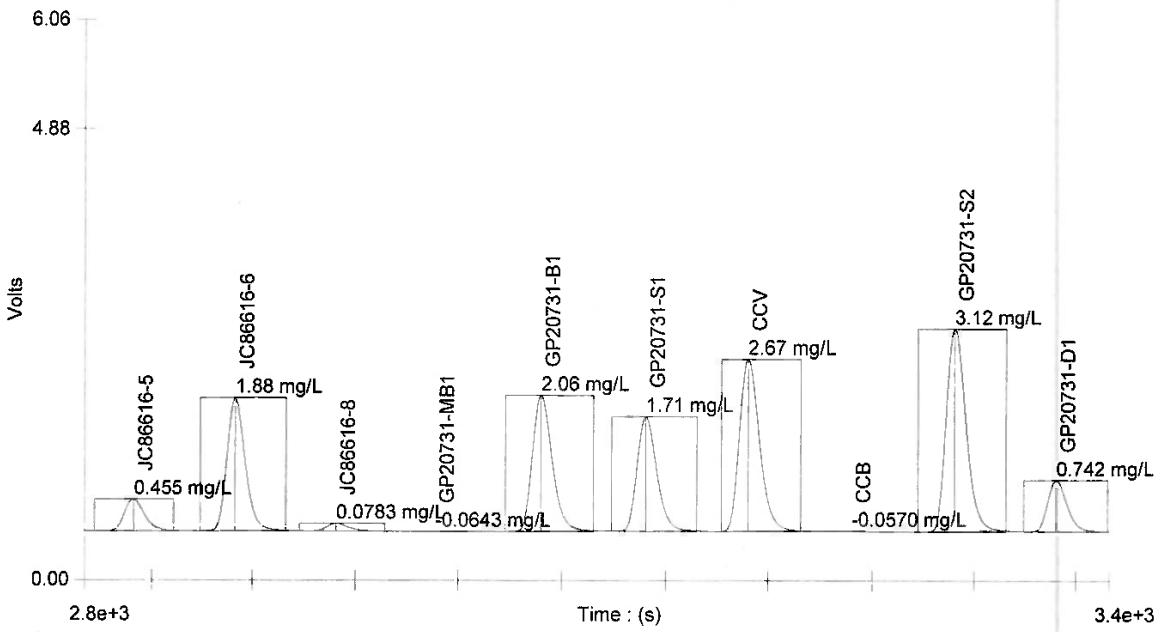


Author: Chemistry Date : 4/19/2019

Channel 1 - Set: 4 / 8

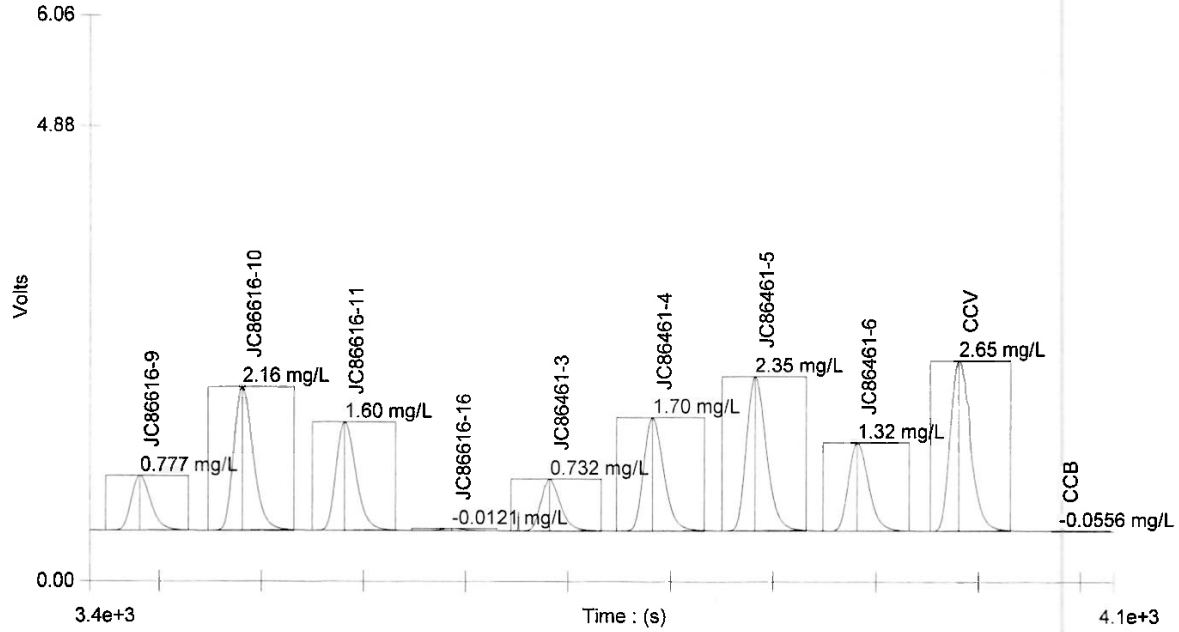


Channel 1 - Set: 5 / 8

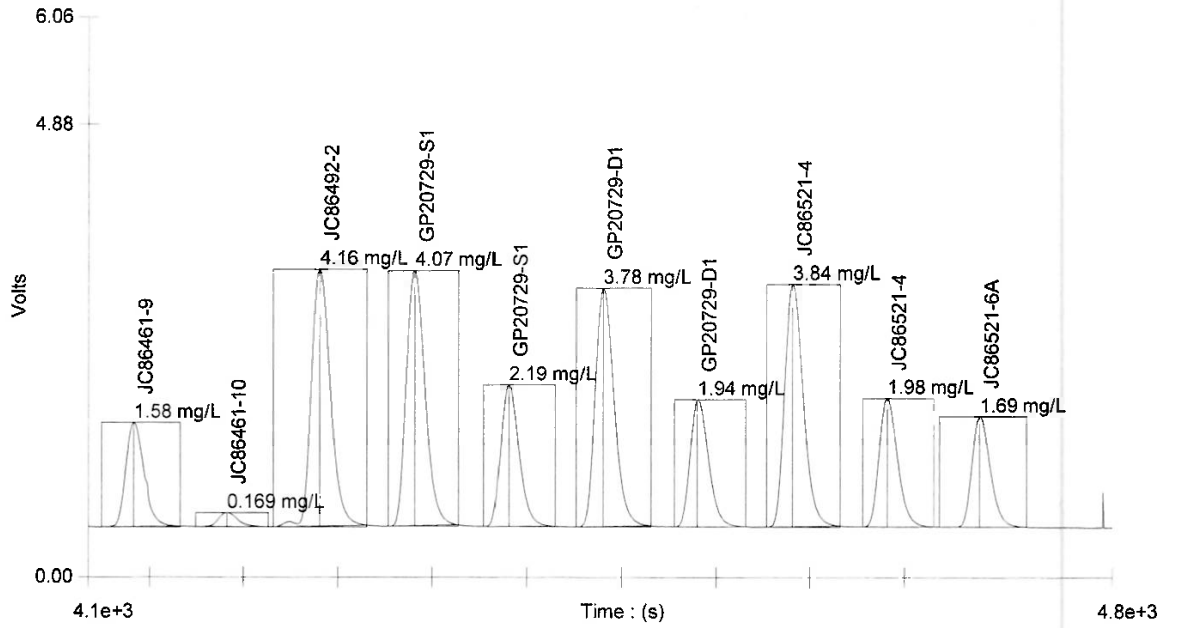


Author: Chemistry Date : 4/19/2019

Channel 1 - Set: 6 / 8



Channel 1 - Set: 7 / 8



Author: Chemistry Date : 4/19/2019

Channel 1 - Set: 8 / 8

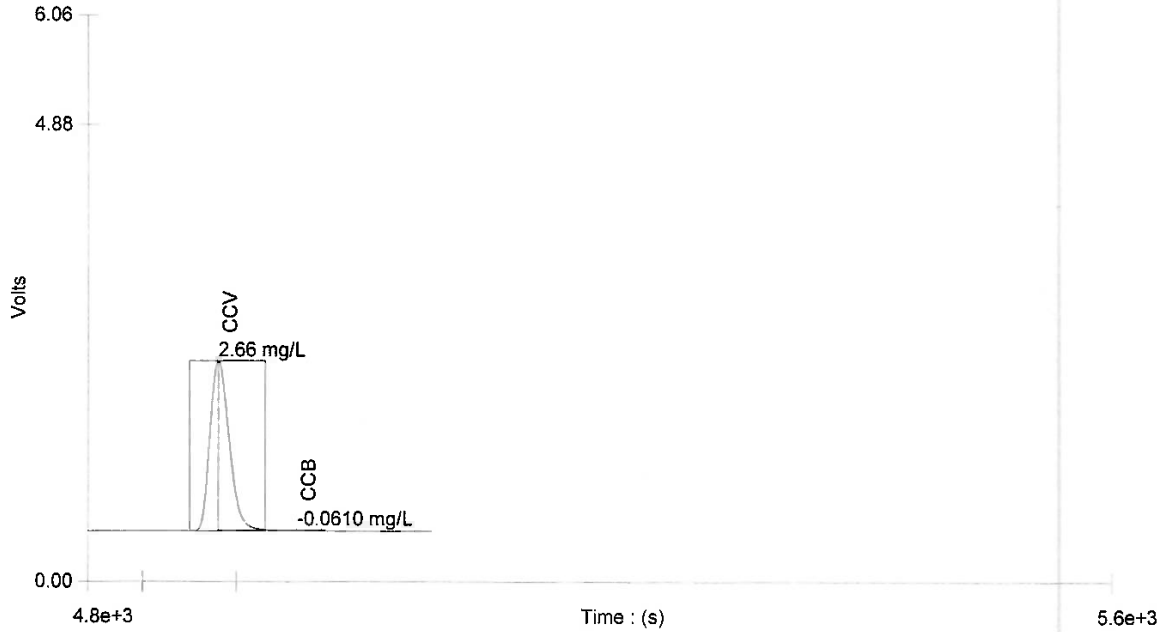
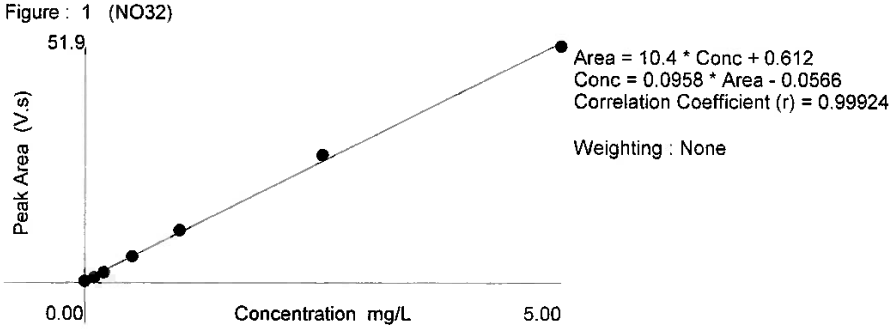


Table : 1 (NO32)

	Known Conc. (mg/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg/L)	Detection Date	Detection Time
1	5.00	1	51.9	3.24	0.0	1.5	4.92	4/19/2019	12:08:55 PM
2	2.50	1	28.1	1.84	0.0	-5.3	2.63	4/19/2019	12:10:03 PM
3	1.00	1	11.5	0.794	0.0	-4.7	1.05	4/19/2019	12:11:10 PM
4	0.500	1	5.80	0.386	0.0	0.4	0.499	4/19/2019	12:12:18 PM
5	0.200	1	2.30	0.153	0.0	14.8	0.163	4/19/2019	12:13:25 PM
6	0.100	1	1.18	0.0775	0.0	28.4	0.0569	4/19/2019	12:14:32 PM
7	0.00	1	0.354	0.0211			-0.0227	4/19/2019	12:15:39 PM

Figure : 1 (NO32)



Analyst KI Product NO32 Autopipette # 43

Date 4/19/19 Batch ID Class A Vol. Flask

Sample Dilution Prep Log

Sample ID	Dilution	Initial Volume	Final Volume	Comments
GP20729-S1	1:2	2	4	
↓ S1 ~~D1~~	1:4	1	4	
JC86521-4	1:2	2	4	
↓	1:4	1	4	
GP20729-D1	1:2	2	4	
↓	1:4	1	4	
JC86521-6A	1:3	1	3	

QC Reviewer: Date:

Form: GN165-01
Rev. Date: 2/25/03

SGS

MDL Schedule Log

Product: NO32

Matrix: AQ

Instrument: Lachat E

Day 1 + MB

Sample #: JC85413-15A MDL or MDLVER x 1

Concentration: 0.1 mg/L or mg/kg or _____

Prep: 0.1mL 100ppm NO32 std diluted to 100mL DI

Sample #: _____ MDL or MDLVER x _____

Concentration: _____ mg/L or mg/kg or _____

Prep: _____

Date: 4/19/19

Analyst: KJ

Batch #: GP20728

Form: GN278-04
Revised: 3/2/18

13.8 13

SGS

Analyst: KI

Product: NO32

Pipette ID: 43

Prep Date: 4/19/19

Balance ID: _____

Batch ID: _____

Sample Prep Log

Sample ID	Initial Sample Amount	Final Volume
GP20729-B1	2mL 100ppm NO32 std	100mL carrier
-S1	.5mL 100ppm	50mL JC86521-4 (clear)
↓ -S2	↓	50mL JC86397-7 (clear)
GP20731-B1	2mL 100ppm NO32 std	100mL carrier
-S1	.5mL 100ppm	50mL JC86616-9 (clear)
↓ -S2	↓	50mL JC86461-5 (clear)

Reviewer: _____

Date: _____

Form: GN166-04
Revised: 10/27/16

13.8 13

SGS

Reagent Information Log - Nitrate Lachat Autoanalyzer

GN94330

Reagent	Reagent # or Manufacturer/Lot	Expiration Date
Nitrate Stock Solution	GNE2-57126-NO32	8/4/2019
Ammonium Chloride Buffer Solution	GNE3-57481-NO3	9/12/2019
Sulfanilamide Color Reagent	GNE3-57634-NO32	4/26/2019
1:1 NH4OH	GNE1-57007-NO32	7/21/2019
Carrier Solution	GNE11-56545-NO3	5/28/2019
1000 ppm Nitrite Solution	GNE2-57128-NO32	8/4/2019
Nitrate External Stock Solution	GNE2-57127-NO32	8/4/2019

Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error

Form: GN087A-43
Rev. Date: 7/19/06

13.8 13

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG FOR NITRATE

GN or GP Number: GN94330

Intermediate Standard Description	Stock used to prepare standard	Stock concentration in mg/l	Stock volume used in ml	Diluent (a)	Final Volume	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
100 ppm NO3 intermediate	GNE2-57126-NO32	1000	10	Carrier	100 ml	100	8/4/2019	BM	2/4/2019
100 ppm NO2 Intermediate	GNE2-57128-NO32	1000	10	Carrier	100 ml	100	8/4/2019	BM	2/4/2019
100 ppm NO3 External	GNE2-57127-NO32	1000	10	Carrier	100 ml	100	8/4/2019	BM	2/4/2019

Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration	Intermediate or Stock volume used in ml	Diluent	Final Volume	Final Conc. of Standard (mg/l)	Expiration Date	Analyst	Date
5.0 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	5.0	Carrier	100 ml	5.0	4/24/2019	KI	4/17/2019
2.5 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	2.5	Carrier	100 ml	2.5	4/24/2019	KI	4/17/2019
1.0 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	1.0	Carrier	100 ml	1.0	4/24/2019	KI	4/17/2019
0.5 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	5.0	Carrier	100 ml	0.5	4/24/2019	KI	4/17/2019
0.2 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	2.0	Carrier	100 ml	0.2	4/24/2019	KI	4/17/2019
0.1 mg/l NO3	100 ppm NO3 intermediate		1.0	Carrier	100 ml	0.1	4/24/2019	KI	4/17/2019
Effcheck 2.0	100 ppm NO2 Intermediate	100 mg/l	2.0	Carrier	100 ml	2.0	4/24/2019	KI	4/17/2019
ICV	100 ppm NO3 External	100 mg/l	2.0	Carrier	100 ml	2.0	4/24/2019	KI	4/17/2019

(a) Diluent reagent reference number_____Expiration Date_____

**Volume will change with standardization concentration.

Form: GN199-02
Rev. Date: 3/2/18

Alkalinity

GN Batch ID:	GN94404	**Average Sulfuric Normality:**	.0216	**Product:**	ALK
Analyst:	JOHN	**pH Meter ID:**	66	**Method:**	SM21 2320 B-11
Analysis Date:	4/22/2019	**Reporting Limit:**	5.0	**Units:**	mg/L

Calculation for samples > 20 mg/l

$$ALK = \frac{A \times N \times 50000}{\text{Sample Vol}}$$

Calculation for samples < 20 mg/l

$$ALK = \frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$$

Start Time: 19:04 **End Time:** 21:10

Spike Prep: 1ml of 5000 ppm Na+ phosphate dibasic to 100ml DI H2O = 50ppm

Spike Prep: 5ml of 5000 ppm Na+ phosphate dibasic to 100ml DI H2O = 250ppm

QC Summary:

DUP Sample ID:	JC86325-1	**Original:**	104.22	**Duplicate:**	105.30	**% RPD:**	1.03
MB Date:	GN94404-MB1	**Result:**	<5	**RL:**	5	**< MDL?**	YES
Spike Blank:	51.30	**Spike Amt:**	50.00	**% Rec:**	102.60		
Spike Blank (2):	261.90	**Spike Amt:**	250.00	**% Rec:**	104.76		
External QC (ICV):		**Cont. Limit:**		**Known:**		**Res:**	**% Rec:**

Bottle #	Sample ID	Sample Volume (ml)	Initial pH	Initial Reading for Titrant in ml (D)	Final pH 4.5 reading for titrant in ml (E)	Total vol of Titrant to pH 4.5 in ml (E - D = A)	Volume used from 4.5 to 4.2 in mls (F)	Total vol of Titrant to pH 4.2 in ml (F + A = C)	Result (mg/L)	Final Result (mg/L)	RL	Analysis Time
NA	pH 4.0 check (+/- 0.05)	NA	4.020	NA	NA	NA	NA	NA	NA	NA	NA	19:04
NA	pH 7.0 check (+/- 0.05)	NA	7.030	NA	NA	NA	NA	NA	NA	NA	NA	
NA	pH 10.0 check (+/- 0.05)	NA	10.020	NA	NA	NA	NA	NA	NA	NA	NA	
	GN94404-MB1	100	6.320	0.00	0.15	0.15	0.05	0.20	1.08	<5	5	20:05
	GN94404-B1	100	7.800	0.00	4.75	4.75			51.30	51.30	5	20:05
	GN94404-B2	100	7.930	0.00	24.25	24.25			261.90	261.90	5	20:05
3	GN94404-D1	100	6.910	0.00	9.75	9.75			105.30	105.30	5	20:05
3	JC86325-1	100	7.010	0.00	9.65	9.65			104.22	104.22	5	20:05
4	JC86325-2	100	7.340	0.00	9.85	9.85			106.38	106.38	5	20:05
4	JC86325-3	100	5.780	0.00	18.20	18.20			196.56	196.56	5	20:05

Alkalinity

Bottle #	Sample ID	Sample Volume (ml)	Initial pH	Initial Reading for Titrant in ml (D)	Final pH 4.5 reading for titrant in ml (E)	Total vol of Titrant to pH 4.5 in ml (E - D = A)	Volume used from 4.5 to 4.2 in mls (F)	Total vol of Titrant to pH 4.2 in ml (F + A = C)	Result (mg/L)	Final Result (mg/L)	RL	Analysis Time
4	JC86325-4	100	6.700	0.00	9.90	9.90			106.92	106.92	5	20:05
4	JC86326-1	100	5.930	0.00	12.10	12.10			130.68	130.68	5	20:05
3	JC86326-2	100	5.880	0.00	20.60	20.60			222.48	222.48	5	20:05
	pH 4.0 check (+/- 0.2)		4.050									20:05
4	JC86461-3	100	6.050	0.00	34.35	34.35			370.98	370.98	5	20:55
4	JC86461-4	100	6.440	0.00	15.25	15.25			164.70	164.70	5	20:55
4	JC86461-5	100	6.290	0.00	18.80	18.80			203.04	203.04	5	20:55
4	JC86461-6	100	6.600	0.00	9.95	9.95			107.46	107.46	5	20:55
4	JC86461-9	100	6.660	0.00	16.20	16.20			174.96	174.96	5	20:55
4	JC86461-10	100	6.080	0.00	28.85	28.85			311.58	311.58	5	20:55
5	JC86512-8	100	5.650	0.00	13.20	13.20			142.56	142.56	5	20:55
5	JC86512-10	100	5.820	0.00	2.05	2.05			22.14	22.14	5	20:55
5	JC86549-2	100	6.450	0.00	114.35	114.35			1234.98	1234.98	5	20:55
6	JC86549-3	50	6.880	0.00	18.25	18.25			394.20	394.20	10	20:55
	pH 4.0 check (+/- 0.2)		4.070									20:55
6	JC86549-4	50	7.230	0.00	12.35	12.35			266.76	266.76	10	
3	JC86692-1	100	6.250	0.00	43.05	43.05			464.94	464.94	5	
3	JC86692-2	50	6.260	0.00	17.30	17.30			373.68	373.68	10	
3	JC86692-3	100	5.050	0.00	0.25	0.25	0.10	0.35	1.62	<5	5	
	pH 4.0 check (+/- 0.2)		4.070									21:10

Alkalinity

Reagent Lot #	Reagent Lot #
pH Buffer 4	fisher 177759 xp10/19
pH Buffer 7	fisher 183273 xp 5/20
pH Buffer 10	fisher 181282 xp 5/20
H2SO4 Titrant	gne2-57248-alkalinity xp 8/15/19
Sodium Phosphate Diabasic	gne3-57467-alkalinity xp 9/11/19

Reagent Lot #	Reagent Lot #

Comments:

Approved By: HEMEXP Approval Date: 4/23/2019

ANALYTICAL REPORT

Lab Number:	L1910130
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Joe Roman
Phone:	(781) 721-4000
Project Name:	TUFTS ST.
Project Number:	045163
Report Date:	03/21/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L1910130
Report Date: 03/21/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1910130-01	045163-13KNOW-1	AIR	SOMERVILLE, MA	03/12/19 08:13	03/14/19
L1910130-02	045163-13KNOW-B	AIR	SOMERVILLE, MA	03/12/19 08:09	03/14/19
L1910130-03	045163-13KNOW-SS1	SOIL_VAPOR	SOMERVILLE, MA	03/12/19 09:23	03/14/19

Project Name: TUFTS ST. **Lab Number:** L1910130

Project Number: 045163 **Report Date:** 03/21/19

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	NO
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	TUFTS ST.	**Lab Number:**	L1910130
Project Number:	045163	**Report Date:**	03/21/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS ST. **Lab Number:** L1910130
Project Number: 045163 **Report Date:** 03/21/19

Case Narrative (continued)

MCP Related Narratives

Canisters were released from the laboratory on March 8 and 11, 2019. The canister certification data is provided as an addendum.

MCP Volatile Organics in Air

In reference to questions E b/I:

All samples were analyzed for a subset of the MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 03/21/19

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L1910130
Report Date: 03/21/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

AIR

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L1910130
Report Date: 03/21/19

SAMPLE RESULTS

Lab ID: L1910130-01
Client ID: 045163-13KNOW-1
Sample Location: SOMERVILLE, MA

Date Collected: 03/12/19 08:13
Date Received: 03/14/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/21/19 01:04
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.031	0.020	--	0.210	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	91		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L1910130
Report Date: 03/21/19

SAMPLE RESULTS

Lab ID: L1910130-02
Client ID: 045163-13KNOW-B
Sample Location: SOMERVILLE, MA

Date Collected: 03/12/19 08:09
Date Received: 03/14/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/21/19 01:43
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.693	0.020	--	4.70	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L1910130
Report Date: 03/21/19

SAMPLE RESULTS

Lab ID: L1910130-03
Client ID: 045163-13KNOW-SS1
Sample Location: SOMERVILLE, MA

Date Collected: 03/12/19 09:23
Date Received: 03/14/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15-SIM
Analytical Date: 03/21/19 03:02
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.283	0.020	--	1.92	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	88		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	89		60-140

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L1910130
Report Date: 03/21/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 101,TO-15-SIM
Analytical Date: 03/20/19 17:40

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1217724-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Lab Control Sample Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L1910130
Report Date: 03/21/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1217724-3								
Vinyl chloride	86		-		70-130	-		
1,1-Dichloroethene	90		-		70-130	-		
trans-1,2-Dichloroethene	81		-		70-130	-		
1,1-Dichloroethane	92		-		70-130	-		
cis-1,2-Dichloroethene	86		-		70-130	-		
1,1,1-Trichloroethane	121		-		70-130	-		
Trichloroethene	109		-		70-130	-		
1,1,2-Trichloroethane	122		-		70-130	-		
Tetrachloroethene	103		-		70-130	-		
1,1,2,2-Tetrachloroethane	110		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L1910130
Report Date: 03/21/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
MCP Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1217724-5 QC Sample: L1910130-02 Client ID: 045163-13KNOW-B						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Tetrachloroethene	0.693	0.708	ppbV	2		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25

Project Name: TUFTS ST.

Lab Number: L1910130

Project Number: 045163

Report Date: 03/21/19

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1910130-01	045163-13KNOW-1	01131	Flow 5	03/08/19	286671		-	-	-	Pass	3.3	2.8	16
L1910130-01	045163-13KNOW-1	920	6.0L Can	03/08/19	286671	L1908759-02	Pass	-29.6	-3.0	-	-	-	-
L1910130-02	045163-13KNOW-B	0541	Flow 5	03/08/19	286671		-	-	-	Pass	3.3	3.0	10
L1910130-02	045163-13KNOW-B	1624	6.0L Can	03/08/19	286671	L1908759-02	Pass	-29.6	-5.4	-	-	-	-
L1910130-03	045163-13KNOW-SS1	0069	Flow 1	03/11/19	286672		-	-	-	Pass	36.0	32.4	11
L1910130-03	045163-13KNOW-SS1	2071	2.7L Can	03/11/19	286672	L1908544-01	Pass	-29.8	-4.5	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908544
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908544-01
Client ID: CAN 2691 SHELF 4
Sample Location:

Date Collected: 03/05/19 16:00
Date Received: 03/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/06/19 09:42
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1908544
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908544-01
Client ID: CAN 2691 SHELF 4
Sample Location:

Date Collected: 03/05/19 16:00
Date Received: 03/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908544
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908544-01
Client ID: CAN 2691 SHELF 4
Sample Location:

Date Collected: 03/05/19 16:00
Date Received: 03/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908544
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908544-01
Client ID: CAN 2691 SHELF 4
Sample Location:

Date Collected: 03/05/19 16:00
Date Received: 03/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908544
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908544-01
Client ID: CAN 2691 SHELF 4
Sample Location:

Date Collected: 03/05/19 16:00
Date Received: 03/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	98		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908544
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908544-01
Client ID: CAN 2691 SHELF 4
Sample Location:

Date Collected: 03/05/19 16:00
Date Received: 03/06/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/06/19 09:42
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908544
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908544-01
Client ID: CAN 2691 SHELF 4
Sample Location:

Date Collected: 03/05/19 16:00
Date Received: 03/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1908544

Project Number: CANISTER QC BAT **Report Date:** 03/21/19

Air Canister Certification Results

Lab ID: L1908544-01
Client ID: CAN 2691 SHELF 4
Sample Location:

Date Collected: 03/05/19 16:00
Date Received: 03/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	98		60-140
bromochloromethane	100		60-140
chlorobenzene-d5	97		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1908759
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908759-02
Client ID: CAN 2442 SHELF 57
Sample Location:

Date Collected: 03/06/19 16:00
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/07/19 09:23
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908759
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908759-02
Client ID: CAN 2442 SHELF 57
Sample Location:

Date Collected: 03/06/19 16:00
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1908759

Project Number: CANISTER QC BAT **Report Date:** 03/21/19

Air Canister Certification Results

Lab ID: L1908759-02
Client ID: CAN 2442 SHELF 57
Sample Location:

Date Collected: 03/06/19 16:00
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908759
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908759-02
Client ID: CAN 2442 SHELF 57
Sample Location:

Date Collected: 03/06/19 16:00
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1908759

Project Number: CANISTER QC BAT **Report Date:** 03/21/19

Air Canister Certification Results

Lab ID: L1908759-02
Client ID: CAN 2442 SHELF 57
Sample Location:

Date Collected: 03/06/19 16:00
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	98		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1908759
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908759-02
Client ID: CAN 2442 SHELF 57
Sample Location:

Date Collected: 03/06/19 16:00
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/07/19 09:23
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908759
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908759-02
Client ID: CAN 2442 SHELF 57
Sample Location:

Date Collected: 03/06/19 16:00
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1908759
Report Date: 03/21/19

Air Canister Certification Results

Lab ID: L1908759-02
Client ID: CAN 2442 SHELF 57
Sample Location:

Date Collected: 03/06/19 16:00
Date Received: 03/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	98		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	96		60-140

Project Name: TUFTS ST.
Project Number: 045163

Lab Number: L1910130
Report Date: 03/21/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1910130-01A	Canister - 6 Liter	N/A	NA			Y	Absent		MCP-TO15-SIM(30)
L1910130-02A	Canister - 6 Liter	N/A	NA			Y	Absent		MCP-TO15-SIM(30)
L1910130-03A	Canister - 2.7 Liter	N/A	NA			Y	Absent		MCP-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	TUFTS ST.	**Lab Number:**	L1910130
Project Number:	045163	**Report Date:**	03/21/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the

original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name: TUFTS ST.
Project Number: 045163
Lab Number: L1910130
Report Date: 03/21/19

REFERENCES

101 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (EPA/625/R-96/010b:January 1999) with QC Requirements & Performance Standards for the Analysis of TO-15 under the Massachusetts Contingency Plan, WSC-CAM-IXB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 2

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/14/19

ALPHA Job #: L1910130

Client Information

Client: GEI
Address: 400 Unicorn Park Drive
Woburn, MA 01801
Phone: 781-721-4000
Fax:
Email: jroman@geiconsultants.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts St.
Project Location: Somerville
Project #: 045163
Project Manager: Joe Roman
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☑ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm
MA	MCP	

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH (subtract Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
1030.01	045163-13KNOW-1	~~3/12/19~~ 3/13/19 (GE)	0815	0813	-30.21	-3.58	AA	CWS	6	920	01131	X					Site Analyte list
.02	045163-13KNOW-B	~~3/12/19~~ 3/13/19	0809	0809	-30.21	-6.36	AA	CWS	6	1624	0541	X					

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: 6S

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
Matthew Sciedlas	~~3/12/19~~ 3/13/19 (GE) 1100	GEI Field Room	
GEI Field Room	3/14/19 1247	Jessica Glehart	3/14/2019 1247
Jessica Glehart	3/14/19 1247	T. Hundley ALPHA	3/14/2019 1247
T. Hundley	3/14/19 1530	Chris Jebeau	3/14/19 1530

Form No: 101-02 Rev: (25-Sep-15)

R 3/14/19 21:52

3 3/14/19 21:52

AIR ANALYSIS

PAGE 2 OF 2

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/14/19

ALPHA Job #: L1910130

Client Information

Client: GEI
Address: 400 Unicorn Park Drive
Woburn, MA 01801
Phone: 781-721-4000
Fax:
Email: jromem@geiconsultants.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Tufts St.
Project Location: Somerville
Project #: 045-163
Project Manager: Joe Romem
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☑ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm
MA	MCP	

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH (Subset Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
	~~045163-13KNOW-SV1~~ (CWS)																
10130.03	045163-13KNOW-SV1	~~3/11/19~~ 3/12/19 (JE)	0823	0923	-31.35	-5.83	SV	CWS	2.7	2071	0064	X					Site Analyte list

ANALYSIS

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: 1S

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
~~Charles Sieder~~	~~3/11/19~~ 3/12/19 (JE) 1100	GEI Field Room	
GEI Field Room	3/14/19 1247	Jessica Gilchrist	3/14/2019 1247
Jessica Gilchrist	3/14/19 1247	T. Hamblin ARL	3/14/19 1247
T. Hamblin	3/14/19 1530	Chris Jelbert	3/14/19 1530
3/14/19 21:52			

Form No: 101-02 Rev: (25-Sep-15)

Indoor Air Sampling Analyte List

- 1,1-Dichloroethane
- 1,1-Dichloroethylene
- trans-1,2-Dichloroethylene
- cis-1,2-Dichloroethylene
- 1,1,1-Trichloroethane
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- Tetrachloroethylene
- Trichloroethylene
- Vinyl Chloride

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917507
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917507-01
Client ID: 045163-60TUFT4-SS2
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 20:09
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15
Analytical Date: 05/01/19 00:15
Analyst: RY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	0.288	0.200	--	1.57	1.09	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Tetrachloroethene	0.435	0.200	--	2.95	1.36	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	82		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917518
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917518-01
Client ID: 045163-60TUFT-SS10
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 08:05
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15
Analytical Date: 05/01/19 02:17
Analyst: RY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	1.57	0.200	--	8.57	1.09	--		1
Trichloroethene	2.12	0.200	--	11.4	1.07	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Tetrachloroethene	6.73	0.200	--	45.6	1.36	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	82		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	84		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917518
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917518-02
Client ID: 045163-60TUFT-SS14
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 08:19
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15
Analytical Date: 05/01/19 02:57
Analyst: RY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	3.05	0.200	--	16.6	1.09	--		1
Trichloroethene	3.15	0.200	--	16.9	1.07	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Tetrachloroethene	16.0	0.200	--	108	1.36	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	82		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	83		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917518
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917518-03
Client ID: 045163-60TUFT-STORAGE-SS2
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 08:35
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15
Analytical Date: 05/01/19 03:37
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	1.30	0.200	--	7.09	1.09	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	82		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	83		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917518
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917518-04
Client ID: 045163-60TUFT-STORAGE-SS1
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 08:41
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15
Analytical Date: 05/01/19 04:17
Analyst: RY

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,1-Dichloroethene	10.5	0.200	--	41.6	0.793	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	46.0	0.200	--	251	1.09	--		1
Trichloroethene	0.635	0.200	--	3.41	1.07	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Tetrachloroethene	0.874	0.200	--	5.93	1.36	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	81		60-140
Bromochloromethane	87		60-140
chlorobenzene-d5	82		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917522
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917522-01
Client ID: 045163-60TUFT-SS13
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 07:51
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 101,TO-15
Analytical Date: 05/01/19 00:55
Analyst: RY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	22.7	0.200	--	124	1.09	--		1
Trichloroethene	1.48	0.200	--	7.95	1.07	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Tetrachloroethene	18.5	0.200	--	125	1.36	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	84		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	84		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917523
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917523-01
Client ID: 045163-60TUFT-1
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 06:36
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 04/30/19 18:58
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.105	0.020	--	0.712	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	88		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	92		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917525
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917525-01
Client ID: 045163-60TUFT-GARG
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 06:55
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 04/30/19 19:37
Analyst: RY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.031	0.020	--	0.210	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	87		60-140
bromochloromethane	82		60-140
chlorobenzene-d5	90		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917525
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917525-02
Client ID: 045163-60TUFT-HALL
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 06:39
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 04/30/19 20:16
Analyst: RY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.043	0.020	--	0.292	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	88		60-140
bromochloromethane	82		60-140
chlorobenzene-d5	91		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917525
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917525-03
Client ID: 045163-60TUFT-STOR2
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 07:11
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 04/30/19 21:35
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.021	0.020	--	0.142	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	86		60-140
bromochloromethane	79		60-140
chlorobenzene-d5	89		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917525
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917525-04
Client ID: 045163-60TUFT-STOR1
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 07:12
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 04/30/19 22:15
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.024	0.020	--	0.163	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	86		60-140
bromochloromethane	80		60-140
chlorobenzene-d5	89		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917528
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917528-01
Client ID: 045163-60TUFT4-B
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 18:56
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 04/30/19 22:55
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	0.029	0.020	--	0.115	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.103	0.020	--	0.698	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	83		60-140
bromochloromethane	77		60-140
chlorobenzene-d5	85		60-140

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L1917528
Report Date: 05/02/19

SAMPLE RESULTS

Lab ID: L1917528-02
Client ID: 045163-60TUFT4-1
Sample Location: SOMERVILLE, MA

Date Collected: 04/25/19 18:50
Date Received: 04/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 101,TO-15-SIM
Analytical Date: 04/30/19 23:35
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
MCP Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Tetrachloroethene	0.039	0.020	--	0.264	0.136	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	87		60-140
bromochloromethane	79		60-140
chlorobenzene-d5	89		60-140

Appendix D

Pre-Sampling Checklists, Air Sampling Checklists, and Photo Logs

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location:
13 Knowlton Street
First Floor

Sample ID: 045163-13KNOW-1

Date: 3/11/19-3/12/19
Sampling personnel: M. Greer and C. Saledas
Summa Canister ID: 920
Flow Regulator ID: 01131
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 8:15
Sampling Finish Time: 8:13

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: --30.21 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: --3.58 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	45°	40°
Barometric Pressure (in. Hg):	29.9	30.1
Prevailing Wind Direction:	West	North
General Weather Conditions:	Cloudy	Clear

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	67°	67°
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.3 ppm

Photographs taken before sampling? Yes / **No** **If Yes, what time: NA** **Taken by:** NA
Photographs taken after sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans? Yes** */ No
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / No **If yes, provide detail:** Tenant
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:

Air intake at 54".
Property has an active SSDS. Prior to collection of samples, the system was shut off and the valve was closed for seven days.

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 13 Knowlton Street Basement

Sample ID: 045163-13KNOW-B

Date: 3/11/19-3/12/19
Sampling personnel: M. Greer and C. Saledas
Summa Canister ID: 1624
Flow Regulator ID: 0541
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 8:09
Sampling Finish Time: 8:09

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -30.21 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: -6.36 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	45°	40°
Barometric Pressure (in. Hg):	29.9	30.1
Prevailing Wind Direction:	West	North
General Weather Conditions:	Cloudy	Clear

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	63.3	58.4
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm

Photographs taken before sampling? Yes / No **If Yes, what time: 8:11 Taken by:** MEG
Photographs taken after sampling? Yes / **No** **If Yes, what time: NA Taken by: NA**

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans? Yes** */ No
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / No **If yes, provide detail:** Tenant
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:

Air intake at 40".
Property has an active SSDS. Prior to collection of samples, the system was shut off and the valve was closed for seven days.

Photo 1: 13 Knowlton Street first floor air sample.

Phot 2: 13 Knowlton Street basement air sample.

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location:
13 Knowlton Street
SS-1

Sample ID: 045163-13KNOW-SS-1

Date: 3/12/2019
Sampling personnel: M. Greer and C. Saledas
Summa Canister ID: 2071
Flow Regulator ID: 0069
Sample Type / Analysis Method: SUMMA/TO-15
Sampling Start Time: 8:23
Sampling Finish Time: 9:23

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
8:33	-26.70
8:43	-22.91
8:54	-17.69
9:04	-13.85
9:13	-9.89

Pressure gauge reading (Pre-opening): Flow Controller: -31.35 in.Hg
Pressure gauge reading (After sample collected): Flow Controller: -5.83 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	40°	44°
Barometric Pressure:	30.1	30.1
Prevailing Wind Direction:	North	North
General Weather Conditions:	Clear	Clear

Photographs taken before sampling? No **If Yes, what time:** NA **Taken by:** NA
Vacuum prior to sampling (in. WC): 0.1
Ambient air concentration (ppm): 0.0
Soil gas concentration prior to sampling (ppm): 0.0
Vapor point purged for 5 minutes **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
Unit 4 First Floor

Sample ID: 045163-60TUFTS-4-1

Date: 4/24/19-4/25/19
Sampling personnel: M. Greer
Summa Canister ID: 2669
Flow Regulator ID: 0823
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 18:59
Sampling Finish Time: 18:50

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): **Flow Controller:** -29.99 in. Hg
Pressure gauge reading (After sample collected): **Flow Controller:** -5.02 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	50°	50°
Barometric Pressure (in. Hg):	29.8	29.9
Prevailing Wind Direction:	East	South
General Weather Conditions:	Sunny	Clear

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm

Photographs taken before sampling? Yes / **No** **If Yes, what time: NA** **Taken by:** NA
Photographs taken after sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans? Yes** */ No
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / No **If yes, provide detail:** Tenant
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:

Air intake at 54".
Property has an active SSDS. Prior to collection of samples, the system was shut off and the valve was closed for seven days.

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
Unit 4 Basement

Sample ID: 045163-60TUFTS-4-B

Date: 4/24/19-4/25/19
Sampling personnel: M. Greer
Summa Canister ID: 2644
Flow Regulator ID: 0470
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 19:01
Sampling Finish Time: 18:56

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -30.03 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: -7.05 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	50°	50°
Barometric Pressure (in. Hg):	29.8	29.9
Prevailing Wind Direction:	East	South
General Weather Conditions:	Sunny	Clear

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm

Photographs taken before sampling? Yes / **No** **If Yes, what time: NA** **Taken by:** NA
Photographs taken after sampling? Yes / **No** **If Yes, what time: NA** **Taken by: NA**

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans? Yes** */ No
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / No **If yes, provide detail:** Tenant
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:

Air intake at 36".
Property has an active SSDS. Prior to collection of samples, the system was shut off and the valve was closed for seven days.

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
Unit 1

Sample ID: 045163-60TUFT-1

Date: 4/24/19-4/25/19
Sampling personnel: M. Greer
Summa Canister ID: 1531
Flow Regulator ID: 0970
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 6:43
Sampling Finish Time: 6:36

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): **Flow Controller:** -29.96 in. Hg
Pressure gauge reading (After sample collected): **Flow Controller:** --6.22 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	61°	54°
Barometric Pressure (in. Hg):	29.7	29.9
Prevailing Wind Direction:	West	East
General Weather Conditions:	Cloudy	Sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm

Photographs taken before sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA
Photographs taken after sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans? Yes** */ No
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / No **If yes, provide detail:** Tenant
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:

Air intake at 42".
Property has an active SSDS. Prior to collection of samples, the system was shut off and the valve was closed for seven days.

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
Storage

Sample ID: 045163-60TUFT-STOR1

Date: 4/24/19-4/25/19
Sampling personnel: M. Greer
Summa Canister ID: 624
Flow Regulator ID: 0393
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 7:12
Sampling Finish Time: 7:12

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): **Flow Controller:** -29.92 in. Hg
Pressure gauge reading (After sample collected): **Flow Controller:** -5.03 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	61°	54°
Barometric Pressure (in. Hg):	29.6	29.9
Prevailing Wind Direction:	West	East
General Weather Conditions:	Cloudy	Sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm

Photographs taken before sampling? Yes / No **If Yes, what time:** 7:12 **Taken by:** MEG
Photographs taken after sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans? Yes** */ No
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / **No** **If yes, provide detail:** NA
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:

Air intake at 36".
Property has an active SSDS. Prior to collection of samples, the system was shut off and the valve was closed for seven days.

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
Storage

Sample ID: 045163-60TUFT-STOR2

Date: 4/24/19-4/25/19
Sampling personnel: M. Greer
Summa Canister ID: 2070
Flow Regulator ID: 0589
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 7:08
Sampling Finish Time: 7:11

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): **Flow Controller:** -29.71 in. Hg
Pressure gauge reading (After sample collected): **Flow Controller:** -6.84 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	61°	54°
Barometric Pressure (in. Hg):	29.6	29.9
Prevailing Wind Direction:	West	East
General Weather Conditions:	Cloudy	Sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm

Photographs taken before sampling? Yes / No **If Yes, what time:** 7:11 **Taken by:** MEG
Photographs taken after sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans? Yes** */ No
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / **No** **If yes, provide detail:** NA
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:

Air intake at 36".
Property has an active SSDS. Prior to collection of samples, the system was shut off and the valve was closed for seven days.

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location: 60 Tufts Street Garage

Sample ID: 045163-60TUFT-GARG

Date: 4/24/19-4/25/19
Sampling personnel: M. Greer
Summa Canister ID: 1786
Flow Regulator ID: 0186
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 6:55
Sampling Finish Time: 6:55

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -30.24 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: -4.96 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	61°	54°
Barometric Pressure (in. Hg):	29.6	29.9
Prevailing Wind Direction:	West	East
General Weather Conditions:	Cloudy	Sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm

Photographs taken before sampling? Yes / No **If Yes, what time:** 6:55 **Taken by:** MEG
Photographs taken after sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans? Yes** */ No
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / **No** **If yes, provide detail:** NA
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:

Air intake at 36".
Property has an active SSDS. Prior to collection of samples, the system was shut off and the valve was closed for seven days.

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
Hallway

Sample ID: 045163-60TUFT-HALL

Date: 4/24/19-4/25/19
Sampling personnel: M. Greer
Summa Canister ID: 1584
Flow Regulator ID: 0478
Sample Type / Analysis Method: TO15/Summa
Sampling Start Time: 7:00
Sampling Finish Time: 6:39

During Sampling	
Time	**Vacuum**

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): **Flow Controller:** -30.06 in. Hg
Pressure gauge reading (After sample collected): **Flow Controller:** -1.89 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	61°	54°
Barometric Pressure (in. Hg):	29.6	29.9
Prevailing Wind Direction:	West	East
General Weather Conditions:	Cloudy	Sunny

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm

Photographs taken before sampling? Yes / No **If Yes, what time:** 7:00 **Taken by:** MEG
Photographs taken after sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / **No** **Ventilation fans? Yes** */ No
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / **No** **If yes, provide detail:** NA
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:

Air intake at 36".
Property has an active SSDS. Prior to collection of samples, the system was shut off and the valve was closed for seven days.

60 Tufts Street Ambient Air Sampling Photo Log

Photo 1: 60 Tufts storage-1 air sample.

Phot 2: 60 Tufts storage-2 air sample.

60 Tufts Street Ambient Air Sampling Photo Log

Photo 3: 60 Tufts garage air sample.

Photo 4: 60 Tufts hallway air sample.

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
SS-1 (Storage)

Sample ID: 045163-60TUFT-SS1

Date: 4/25/2019
Sampling personnel: M. Greer
Summa Canister ID: 2240
Flow Regulator ID: 01140
Sample Type / Analysis Method: SUMMA/TO-15
Sampling Start Time: 7:41
Sampling Finish Time: 8:41

During Sampling	
Time	**Vacuum**
8:08	-18.95
8:33	-10.24

Did Summa Canister go to ambient pressure? No

Pressure gauge reading (Pre-opening): Flow Controller: -29.08 in.Hg
Pressure gauge reading (After sample collected): Flow Controller: -8.05 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	50°	50°
Barometric Pressure:	29.9	29.9
Prevailing Wind Direction:	East	East
General Weather Conditions:	Cloudy	Sunny

Photographs taken before sampling? No **If Yes, what time:** NA **Taken by:** NA
Vacuum prior to sampling (in. WC): 0.0
Ambient air concentration (ppm): 0.0
Soil gas concentration prior to sampling (ppm): 0.0
Vapor point purged for 5 minutes **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
SS-2 (Storage)

Sample ID: 045163-60TUFT-STORAGES-SS2

Date: 4/25/2019
Sampling personnel: M. Greer
Summa Canister ID: 2279
Flow Regulator ID: 01229
Sample Type / Analysis Method: SUMMA/TO-15
Sampling Start Time: 7:35
Sampling Finish Time: 8:35

During Sampling	
Time	**Vacuum**
8:08	-17.54
8:33	-9.45

Did Summa Canister go to ambient pressure? No

Pressure gauge reading (Pre-opening): Flow Controller: -29.04 in.Hg
Pressure gauge reading (After sample collected): Flow Controller: -8.93 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	50°	50°
Barometric Pressure:	29.9	29.9
Prevailing Wind Direction:	East	East
General Weather Conditions:	Cloudy	Sunny

Photographs taken before sampling? No **If Yes, what time:** NA **Taken by:** NA
Vacuum prior to sampling (in. WC): 0.0
Ambient air concentration (ppm): 0.0
Soil gas concentration prior to sampling (ppm): 0.0
Vapor point purged for 5 minutes **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
SS-10

Sample ID: 045163-60TUFT-SS10

Date: 4/25/2019
Sampling personnel: M. Greer
Summa Canister ID: 2371
Flow Regulator ID: 01151
Sample Type / Analysis Method: SUMMA/TO-15
Sampling Start Time: 7:05
Sampling Finish Time: 8:05

During Sampling	
Time	**Vacuum**
7:14	-26.66
7:45	-16.38

Did Summa Canister go to ambient pressure? No

Pressure gauge reading (Pre-opening): Flow Controller: -29.76 in.Hg
Pressure gauge reading (After sample collected): Flow Controller: -9.69 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	50°	50°
Barometric Pressure:	29.9	29.9
Prevailing Wind Direction:	East	East
General Weather Conditions:	Cloudy	Sunny

Photographs taken before sampling? No **If Yes, what time: NA Taken by:** NA
Vacuum prior to sampling (in. WC): 0.000
Ambient air concentration (ppm): 0.0
Soil gas concentration prior to sampling (ppm): 0.0
Vapor point purged for 5 minutes **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
SS-14

Sample ID: 045163-60TUFT-SS14

Date: 4/25/2019
Sampling personnel: M. Greer
Summa Canister ID: 2241
Flow Regulator ID: 01156
Sample Type / Analysis Method: SUMMA/TO-15
Sampling Start Time: 7:19
Sampling Finish Time: 8:19

During Sampling	
Time	**Vacuum**
7:44	-21.20
8:07	-13.55

Did Summa Canister go to ambient pressure? No

Pressure gauge reading (Pre-opening): Flow Controller: -29.24 in.Hg
Pressure gauge reading (After sample collected): Flow Controller: -9.67 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	50°	50°
Barometric Pressure:	29.9	29.9
Prevailing Wind Direction:	East	East
General Weather Conditions:	Cloudy	Sunny

Photographs taken before sampling? No **If Yes, what time:** NA **Taken by:** NA
Vacuum prior to sampling (in. WC): 0.000
Ambient air concentration (ppm): 0.0
Soil gas concentration prior to sampling (ppm): 0.2
Vapor point purged for 5 minutes **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
Unit 4 SS-2

Sample ID: 045163-60TUFTS-4-SS2

Date: 4/25/2019
Sampling personnel: M. Greer
Summa Canister ID: 2216
Flow Regulator ID: 1159
Sample Type / Analysis Method: SUMMA/TO-15
Sampling Start Time: 19:09
Sampling Finish Time: 20:09

During Sampling	
Time	**Vacuum**
19:45	-17.81

Did Summa Canister go to ambient pressure? No

Pressure gauge reading (Pre-opening): Flow Controller: -29.39 in.Hg
Pressure gauge reading (After sample collected): Flow Controller: -10.75 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	50°	50°
Barometric Pressure:	29.9	29.9
Prevailing Wind Direction:	South	South
General Weather Conditions:	Sunny	Clear

Photographs taken before sampling? No **If Yes, what time:** NA **Taken by:** NA
Vacuum prior to sampling (in. WC): 0.000
Ambient air concentration (ppm): 0.0
Soil gas concentration prior to sampling (ppm): 0.0
Vapor point purged for 5 minutes **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location:
60 Tufts Street
SS-13

Sample ID: 045163-60TUFT-SS13

Date: 4/25/2019
Sampling personnel: M. Greer
Summa Canister ID: 1/5/1906
Flow Regulator ID: 1/20/1902
Sample Type / Analysis Method: SUMMA/TO-15
Sampling Start Time: 6:53
Sampling Finish Time: 7:51

During Sampling	
Time	**Vacuum**
7:20	-20.29

Did Summa Canister go to ambient pressure? No

Pressure gauge reading (Pre-opening): Flow Controller: --29.91 in.Hg
Pressure gauge reading (After sample collected): Flow Controller: -10.03 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	50°	50°
Barometric Pressure:	29.9	29.9
Prevailing Wind Direction:	East	East
General Weather Conditions:	Cloudy	Sunny

Photographs taken before sampling? No **If Yes, what time:** NA **Taken by:** NA
Vacuum prior to sampling (in. WC): 0.003
Ambient air concentration (ppm): 0.0
Soil gas concentration prior to sampling (ppm): 0.
Vapor point purged for 5 minutes **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location:
163 Glen Street
IA-1

Sample ID: 045163-6163Glen-IA1

Date: 4/1/2019-4/2/2019
Sampling personnel: S. Trant
Summa Canister ID: 1705
Flow Regulator ID: 01070
Sample Type / Analysis Method: TO15/Summa **4/2/2019**
Sampling Start Time: 13:36 on 4/1/2019
Sampling Finish Time: 13:36 on 4/2/2019

During Sampling	
Time	**Vacuum**
12:53	-8.2
13:26	-7.62

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -30.26 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: -7.62 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	41°	47°
Barometric Pressure (in. Hg):	30.05	30.38
Prevailing Wind Direction:	West ~22mph	South ~14mph
General Weather Conditions:	Partly Cloudy	Partly Cloudy

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm 0.7 ppm

Photographs taken before sampling? Yes / **No** **If Yes, what time: NA** **Taken by:** NA
Photographs taken after sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / No **Ventilation fans?** Yes / **No**
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / No **If yes, provide detail:**
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:
Painting room on 4/2/2019, faint paint smell.

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location:
163 Glen Street
IA-2

Sample ID: 045163-6163Glen-IA2

Date: 4/1/2019-4/2/2019
Sampling personnel: S. Trant
Summa Canister ID: 962
Flow Regulator ID: 0237
Sample Type / Analysis Method: TO15/Summa **4/2/2019**
Sampling Start Time: 13:34 on 4/1/2019
Sampling Finish Time: 13:34 on 4/2/2019

During Sampling	
Time	**Vacuum**
12:52	-7.07
13:24	-6.43

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -28.69 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: -6.28 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	41°	47°
Barometric Pressure (in. Hg):	30.05	30.38
Prevailing Wind Direction:	West ~22mph	South ~14mph
General Weather Conditions:	Partly Cloudy	Partly Cloudy

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm 0.1 ppm

Photographs taken before sampling? Yes / **No** **If Yes, what time: NA** **Taken by:** NA
Photographs taken after sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / No **Ventilation fans?** Yes / **No**
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / No **If yes, provide detail:**
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:
Painting room on 4/2/2019, faint paint smell.

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location:
163 Glen Street
IA-3

Sample ID: 045163-6163Glen-IA3

Date: 4/1/2019-4/2/2019
Sampling personnel: S. Trant
Summa Canister ID: 1554
Flow Regulator ID: 0632
Sample Type / Analysis Method: TO15/Summa **4/2/2019**
Sampling Start Time: 13:32 on 4/1/2019
Sampling Finish Time: 13:32 on 4/2/2019

During Sampling	
Time	**Vacuum**
12:51	-9.57
13:22	-9.92

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -30.47 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: -7.61 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	41°	47°
Barometric Pressure (in. Hg):	30.05	30.38
Prevailing Wind Direction:	West ~22mph	South ~14mph
General Weather Conditions:	Partly Cloudy	Partly Cloudy

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm 0.1 ppm

Photographs taken before sampling? Yes / **No** **If Yes, what time: NA** **Taken by:** NA
Photographs taken after sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / No **Ventilation fans?** Yes / **No**
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / No **If yes, provide detail:**
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:
Painting room on 4/2/2019, faint paint smell.

GEI Consultants

AMBIENT AIR SAMPLING CHECKLIST

Sampling Location:
163 Glen Street
IA-4

Sample ID: 045163-6163Glen-IA4

Date: 4/1/2019-4/2/2019
Sampling personnel: S. Trant
Summa Canister ID: 2657
Flow Regulator ID: 0080
Sample Type / Analysis Method: TO15/Summa **4/2/2019**
Sampling Start Time: 13:30 on 4/1/2019
Sampling Finish Time: 13:30 on 4/2/2019

During Sampling	
Time	**Vacuum**
12:50	-6.93
13:20	-6.29

Did Summa canister go to ambient pressure? Yes / **No**
Vacuum pressure reported by Laboratory: ---

Pressure gauge reading (Pre-opening): Flow Controller: -30.62 in. Hg
Pressure gauge reading (After sample collected): Flow Controller: -6.20 in. Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature (°F):	41°	47°
Barometric Pressure (in. Hg):	30.05	30.38
Prevailing Wind Direction:	West ~22mph	South ~14mph
General Weather Conditions:	Partly Cloudy	Partly Cloudy

Environmental Conditions (At Sample Location):	**Before Sampling**	**After Sampling**
Temperature (°F):	NM	NM
Barometric Pressure (in. Hg):	NM	NM

PID readings at sample location (ppm): 0.0 ppm 0.1 ppm

Photographs taken before sampling? Yes / **No** **If Yes, what time: NA** **Taken by:** NA
Photographs taken after sampling? Yes / **No** **If Yes, what time:** NA **Taken by:** NA

Was the building aired out prior to sample collection? Yes / **No** **If yes, how long?**
Windows open? Yes / No **Ventilation fans?** Yes / **No**
Was there significant precipitation within 12 hours of (or during) the sampling event? Yes / **No**
Were any of the residents home during sampling? Yes / No **If yes, provide detail:**
Did any of the occupants NOT follow instruction for residents? Yes / **No** **If yes, describe below:**

Notes:
Painting room on 4/2/2019, faint paint smell.

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location:
163 Glen Street
SSV-1

Sample ID: 045163-163Glen-SSV1

Date: 4/2/2019
Sampling personnel: S. Trant
Summa Canister ID: 9/3/1906
Flow Regulator ID: 2/28/1903
Sample Type / Analysis Method: SUMMA/TO-15
Sampling Start Time: 13:48
Sampling Finish Time: 14:48

During Sampling	
Time	**Vacuum**
14:06	-20.46
14:26	-11.43
14:36	-7.15
14:43	-4.90

Did Summa Canister go to ambient pressure? No

Pressure gauge reading (Pre-opening): Flow Controller: -30.06 in.Hg
Pressure gauge reading (After sample collected): Flow Controller: -3.62 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	47°	50°
Barometric Pressure:	30.38	30.35
Prevailing Wind Direction:	South ~14 mph	South ~15mph
General Weather Conditions:	Partly cloudy	Partly Cloudy

Photographs taken before sampling? No **If Yes, what time:** NA **Taken by:** NA
Vacuum prior to sampling (in. WC): NM
Ambient air concentration (ppm): 0.1
Soil gas concentration prior to sampling (ppm): 0.1 - 0.2 ppm
Vapor point purged for 5 minutes **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

GEI Consultants

SUB-SLAB SAMPLING CHECKLIST

Sampling Location:
163 Glen Street
SSV-2

Sample ID: 045163-163Glen-SSV2

Date: 4/2/2019
Sampling personnel: S. Trant
Summa Canister ID: 7/17/1900
Flow Regulator ID: 5/27/1903
Sample Type / Analysis Method: SUMMA/TO-15
Sampling Start Time: 13:55
Sampling Finish Time: 14:55

Did Summa Canister go to ambient pressure? No

During Sampling	
Time	**Vacuum**
14:07	-24.53
14:26	-15.64
14:36	-11.32
14:44	-8.63
14:50	-6.38

Pressure gauge reading (Pre-opening): **Flow Controller:** -29.87 in.Hg
Pressure gauge reading (After sample collected): **Flow Controller:** --5.09 in.Hg

Environmental Conditions (Outside):	**Before Sampling**	**After Sampling**
Temperature:	47°	50°
Barometric Pressure:	30.38	30.35
Prevailing Wind Direction:	South ~14 mph	South ~15mph
General Weather Conditions:	Partly cloudy	Partly Cloudy

Photographs taken before sampling? No **If Yes, what time:** NA **Taken by:** NA
Vacuum prior to sampling (in. WC): NM
Ambient air concentration (ppm): 0.1
Soil gas concentration prior to sampling (ppm): 0.4
Vapor point purged for 5 minutes **with a MiniRAE (500-600 cc/min) prior to sampling.**

Comments:

Appendix E

Field Monitoring Forms and Inspection Logs

60 Tufts Street
SSDS Field Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Monitoring Start Time:**	10:50 AM
		Monitoring End Time:	11:10 AM
Date:	02/11/19		
Weather:	~32°F, partly cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE 3000	592-9100019	100 ppm Isobutylene Time: 10:00	**Y** / N Cal. Reading (ppm): 100.0
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	N/A	Zeroed before each reading? **Y** / N
Anemomaster (CFM)	Kanomax	A034	N/A	N/A	N/A

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration	
Blower Enclosure Secure?	**Y** / N
Blower On?	**Y** / N
Influent Condensate Accumulated?	Y / **N**
Effluent Condensate Accumulated?	Y / **N**
Condensate Drained?	Y / **N**
Hour Meter Reading	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements		
Monitoring Point	**Pressure (in. H_2O)**	**VOC (ppm)**
North Header	NM*	NM*
South Header	NM*	NM*
Combined System Influent	-15.74	0.1
System Effluent	N/A	0.0
Blower Filter Inlet	12	
Blower Filter Outlet	25	
Ambient Air Outside Blower Enclosure		0.0

System Flow Rate Data	
Velocity (feet per minute)	**System Flowrate (CFM): = (PI * r^2) * ft per min**
2770	236

NOTES:

1. ppm = parts per million.
2. CFM = cubic feet per minute.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. VFD = variable frequency drive.
8. Hz = Hertz.

COMMENTS:

* Note: Headers not measured because we did not have access to the building.

60 Tufts Street
SSDS Field Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Monitoring Start Time:**	1:35 PM
		Monitoring End Time:	2:00 PM
Date:	04/17/19		
Weather:	~50°F, partly cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE 3000	592-9100019	100 ppm Isobutylene Time: 10:00	**Y** / N Cal. Reading (ppm): 100.0
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	N/A	Zeroed before each reading? **Y** / N
Anemomaster (CFM)	Kanomax	A034	N/A	N/A	N/A

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration	
Blower Enclosure Secure?	**Y** / N
Blower On?	**Y** / N
Influent Condensate Accumulated?	Y / **N**
Effluent Condensate Accumulated?	Y / **N**
Condensate Drained?	Y / **N**
Hour Meter Reading	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements		
Monitoring Point	**Pressure (in. H_2O)**	**VOC (ppm)**
North Header	NM*	NM*
South Header	NM*	NM*
Combined System Influent	-13.14	0.0
System Effluent	N/A	0.0
Blower Filter Inlet	12	
Blower Filter Outlet	22	
Ambient Air Outside Blower Enclosure		0.0

System Flow Rate Data	
Velocity (feet per minute)	**System Flowrate (CFM): = (PI * r^2) * ft per min**
1890	236

NOTES:

1. ppm = parts per million.
2. CFM = cubic feet per minute.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. VFD = variable frequency drive.
8. Hz = Hertz.

COMMENTS:

* Note: Headers not measured because we did not have access to the building.

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

GENERAL INFORMATION

			Outdoor Monitoring	Indoor Monitoring
GEI Field Representatives:	M. Greer	Start-time of monitoring work:		NA
Date:	02/11/19	End-time of monitoring work:		NA
Weather:	32° F, partly cloudy			

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	GEI Identification No.	Calibrant	Successful Calibration
PID (ppm)	RAE Systems	miniRAE3000		100 ppm Isobutylene	100.0 ppm
Manometer (in. H_20)	Dwyer	Mark III-475-0000-FM	N/A	N/A	Zeroed before each reading
Hot Wire Thermo-Anemometer (ft/min)	Kanomax	A034	050183	N/A	Zeroed before each reading

OBSERVATIONS AND MEASUREMENTS

ENCLOSURE MEASUREMENTS

Shed Secure? NA

Condensate Accumulated? Yes

Condensate Drained? Yes

Influent Flow Rate

Port ID	Flow (cfm)
Manifold 12	NM
Manifold 13	NM
Manifold 14	NM

System Monitoring Points

Port ID	Typical Vacuum Range (in. H_2O)	Vacuum (in. H_2O)	Typical Range of VOCs (ppb)	VOC Concentration (ppm)
Manifold 12	-0.300 to -0.500	-0.55	0 to 2000	0.0
Manifold 13	-0.300 to -0.500	-1.56	0 to 2000	0.0
Manifold 14	-0.300 to -0.500	-0.85	0 to 2000	0.0

EXTERIOR EXTRACTION MONITORING POINT MEASUREMENTS

Monitoring Point Identification	Status (on/off)	Vacuum (in. H_2O)	VOC Concentration (ppm)
122-1	on	-0.33	0.0
122-2	on	-0.36	0.0
122-3	on	-0.35	0.0
126-1	on	-0.35	0.0
126-2	on	-0.27	0.0
126-3	on	-0.29	0.0
134-1	on	-1.23	0.0
134-2	on	-1.39	0.0
134-3	on	-1.32	0.0
138-1	on	-1.41	0.0
138-2	on	-1.41	0.0
138-3	on	-1.38	0.0
142-1	on	-0.55	0.0
142-2	on	-0.56	0.0
142-3	on	-0.53	0.0
146-1	on	-0.53	0.0
146-2	on	-0.52	0.0
146-3	on	-0.52	0.0

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

INTERIOR MEASUREMENTS

Ambient Air Measurements

Classroom	VOC Concentration (ppm)
122	NM
126	NM
134	NM
138	NM
133	NM
137	NM
142	NM
146	NM

Sub-Slab Monitoring Points

Monitoring Point Identification	Vacuum (in. H_2O)	VOC Concentration (ppm)
Room 122A	NM	NM
Room 126A	NM	NM
Room 133A	NM	NM
Room 137A	NM	NM
Room 142A	NM	NM
Room 146A	NM	NM

COMMENTS

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126.
   Manifold 13 is the manifold pipe for rooms 134 and 138.
   Manifold 14 is the manifold pipe for rooms 142 and 146.
2. PID = photoionization detector.
3. ppb = parts per billion.
4. ppm = parts per million.
5. in. H_2O = inches of water column.
6. ft = feet.
7. cfm = cubic feet per minute.
8. NA = Not Applicable.
9. NM = Not Measured.
10. Anemometer not functioning. Influent flow was not measured.

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

GENERAL INFORMATION

			Outdoor Monitoring	Indoor Monitoring
GEI Field Representatives:	M. Greer	Start-time of monitoring work:	10:15 AM	NA
		End-time of monitoring work:	12:15 PM	NA
Date:	04/17/19			
Weather:	sunny, ~55 ° F			

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	GEI Identification No.	Calibrant	Successful Calibration
PID (ppm)	RAE Systems	miniRAE3000		100 ppm Isobutylene	
Manometer (in. H_20)	Dwyer	Mark III-475-0000-FM	N/A	N/A	Zeroed before each reading
Hot Wire Thermo-Anemometer (ft/min)	Kanomax	A034	050183	N/A	Zeroed before each reading

OBSERVATIONS AND MEASUREMENTS

ENCLOSURE MEASUREMENTS

Shed Secure? NA

Condensate Accumulated? Yes

Condensate Drained? Yes

Influent Flow Rate

Port ID	Flow (cfm)
Manifold 12	1392
Manifold 13	1526
Manifold 14	1033

System Monitoring Points

Port ID	Typical Vacuum Range (in. H_2O)	Vacuum (in. H_2O)	Typical Range of VOCs (ppb)	VOC Concentration (ppm)
Manifold 12	-0.300 to -0.500	-0.572	0 to 2000	0.0
Manifold 13	-0.300 to -0.500	-1.471	0 to 2000	0.0
Manifold 14	-0.300 to -0.500	-0.826	0 to 2000	0.0

EXTERIOR EXTRACTION MONITORING POINT MEASUREMENTS

Monitoring Point Identification	Status (on/off)	Vacuum (in. H_2O)	VOC Concentration (ppm)
122-1	on	-0.359	0.0
122-2	on	-0.377	0.0
122-3	on	-0.355	0.0
126-1	on	-0.360	0.0
126-2	on	-0.288	0.1
126-3	on	-0.305	0.0
134-1	on	-1.177	0.0
134-2	on	-1.333	0.0
134-3	on	-1.222	0.0
138-1	on	-1.330	0.0
138-2	on	-1.322	0.0
138-3	on	-1.301	0.0
142-1	on	-0.538	0.0
142-2	on	-0.563	0.0
142-3	on	-0.564	0.0
146-1	on	-0.528	0.0
146-2	on	-0.528	0.0
146-3	on	-0.522	0.0

Capuano Center Sub-Slab Depressurization System
Monthly Mechanical Inspection Log

INTERIOR MEASUREMENTS

Ambient Air Measurements

Classroom	VOC Concentration (ppm)
122	NM
126	NM
134	NM
138	NM
133	NM
137	NM
142	NM
146	NM

Sub-Slab Monitoring Points

Monitoring Point Identification	Vacuum (in. H_2O)	VOC Concentration (ppm)
Room 122A	NM	NM
Room 126A	NM	NM
Room 133A	NM	NM
Room 137A	NM	NM
Room 142A	NM	NM
Room 146A	NM	NM

COMMENTS

Notes:

1. Manifold 12 is the manifold pipe for rooms 122 and 126.
   Manifold 13 is the manifold pipe for rooms 134 and 138.
   Manifold 14 is the manifold pipe for rooms 142 and 146.
2. PID = photoionization detector.
3. ppb = parts per billion.
4. ppm = parts per million.
5. in. H_2O = inches of water column.
6. ft = feet.
7. cfm = cubic feet per minute.
8. NA = Not Applicable.
9. NM = Not Measured.
10. Anemometer not functioning. Influent flow was not measured.

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Monitoring Start Time:**	4:10 PM
		Monitoring End Time:	4:45 PM
Date:	01/14/19		
Weather:	32°F, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	1.9
Blower Effluent	NM	2.1
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Monitoring Start Time:**	11:10 AM
		Monitoring End Time:	11:30 AM
Date:	02/11/19		
Weather:	32°F, partly cloudy		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	-2.03	0.0
Center Header	-2.01	2.1
East Header	-1.99	1.0
North Header	-1.95	0.0
South Header	-2.00	0.0
Combined System Influent	-6.72	0.8
Blower Effluent	37.2	0.0
Lead Carbon Effluent	24.32	0.0
Secondary Carbon Effluent	1.73	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	15	
Blower Filter Outlet	NA	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
2402	209

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Monitoring Start Time:**	11:15 AM
		Monitoring End Time:	11:55 AM
Date:	03/20/19		
Weather:	45°F, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	1.43
Blower Effluent	NM	2.2
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Monitoring Start Time:**	12:20 PM
		Monitoring End Time:	1:30 PM
Date:	04/17/19		
Weather:	Sunny, ~60F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	-2.26	1.8
Center Header	-2.22	2.6
East Header	-2.30	0.0
North Header	-2.72	1.4
South Header	-2.33	0.0
Combined System Influent	-6.02	1.5
Blower Effluent	37.9	2.4
Lead Carbon Effluent	23.21	0.0
Secondary Carbon Effluent	1.70	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	15	
Blower Filter Outlet	NA	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
6024	525

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Monitoring Start Time:**	11:00 AM
		Monitoring End Time:	11:45 AM
Date:	05/15/19		
Weather:	55°F, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	1.9
Blower Effluent	NM	2.1
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

50 Tufts Street Sub-Slab Depressurization System
Monthly Monitoring Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Monitoring Start Time:**	11:45 AM
		Monitoring End Time:	12:30 PM
Date:	06/11/19		
Weather:	70°F, sunny		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	MiniRAE 3000	100 ppm Isobutylene	**Y** / N 100.0 ppm
Manometer (in. H_2O)	Dwyer	Mark III-475-0 Series	N/A	Zeroed before each reading
Anemomaster (CFM)	TSI	VelociCalc	N/A	N/A

FIELD MEASUREMENTS & OBSERVATIONS

System Status/Configuration

Fenced Enclosure Secure?	Yes
Blower On?	Yes
Condensate Accumulated?	No
Condensate Drained?	NA
Hour Meter Reading?	NM
Lead Carbon Unit?	A
Secondary Carbon Unit?	B
Polish Carbon Unit?	N/A
VFD Setting (Hz)	60

Pressure/VOC Measurements

Monitoring Point	Pressure (in. H_2O)	VOC (ppm)
West Header	NM	NM
Center Header	NM	NM
East Header	NM	NM
North Header	NM	NM
South Header	NM	NM
Combined System Influent	NM	3
Blower Effluent	NM	3.5
Lead Carbon Effluent	NM	0.0
Secondary Carbon Effluent	NM	0.0
System Effluent	Effluent is secondary tank - Tank C offline	
Ambient Air		0.0
Blower Filter Inlet	NM	
Blower Filter Outlet	NM	

System Flow Rate Data

Velocity (ft/min)	System Flowrate (CFM):
NM	NM

Tank Exterior Monitoring

Bubbling Paint Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

Rust Visible?

Tank	Y/N
A	Yes
B	Yes
C	Yes

ABBREVIATIONS

ppm = parts per million
CFM = cubic feet per minute
ft/min = feet per minute
PID = photoionization detector
N/A = Not Applicable
VOC = volatile organic compound
in. H2O = inches of water column
NM = Not Measured
VFD = Variable Frequency Drive

COMMENTS

Appendix F

EPMM Inspection Forms

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Address:**	13 Knowlton Street
	C. Saledas	**Monitoring Start Time:**	8:00 AM
Date:	3/12/2019	**Monitoring End Time:**	8:15 AM
Weather:	Cloudy, ~40° F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	NA	100 ppm Isobutylene Time:	**Y** / N Cal. Reading (ppm): 100.1
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? **Y** / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	Y / (N)	SSVS Influent Pipe	0.457	0.0	
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	SS1	-0.1	0.0	
Excessive fan noise?	Y / (N)	Ambient Air	NA	0.0	
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor				
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y (N)				

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

Node off, Ran REPORT, no communication.

Replaced battery. Node on Ran REPORT, system running.

Shut off system. Ran REPORT. System off-not receiving notices.

Shut valve, left system off for shutdown sampling next week.

COMMENTS:

1. Finished basement.
2. Ambient Air = 0.0 ppm
3. Fan off upon arrival for shutdown sampling, turned back on after samples collected.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	M. Greer	**Property Address:**	34 Knowlton St
		Monitoring Start Time:	7:00 AM
Date:	4/4/2019	**Monitoring End Time:**	7:15 AM
Weather:	Overcast, ~40°F	**Option 2 or 3:**	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909771	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm):99.4

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	good / fair / poor	Not observed.
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor	
Epoxy Condition (cracks, peeling, water damage, etc.)?	(good) / fair / poor	
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)	
Downdraft Prevention Cap Present?	Y / N	Not observed.

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Small slab crack near storage unit #2 .
2. Ambient Air= 0.4- 0.5 ppm.

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Address:**	95 Franklin St
		Monitoring Start Time:	8:00 AM
Date:	4/4/2019	**Monitoring End Time:**	8:20 AM
Weather:	Sunny, 40°F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909687	100 ppm Isobutylene Time:	(Y) / N Cal. Reading (ppm):99.4
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? (Y) / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	(Y) / N	System Influent Pipe	-0.04	6.0	
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	Ambient Air	N/A	0.0	
Excessive fan noise?	Y / (N)				
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor				
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

COMMENTS:

1. Observed 2 patches of epoxy peeling and chipping on floor near furnace, total ~2.5 square feet.
2. Resident requested that we raise pipe near basement stairs.
3. Minor surficial crack near stairs, ~18" long
4. Three areas of flaking epoxy each less than 1 sq ft observed in 2018, did not obsereve.
5. Cat litter on floor with rust beneath.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	M. Greer	**Property Address:**	91-93 Franklin Street
		Monitoring Start Time:	07:30 AM
Date:	04/05/19	**Monitoring End Time:**	07:45 AM
Weather:	Sunny, ~60°F	**Option 2 or 3:**	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE2000	592-909771	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 99.5

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	(good) / fair / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Observed peeling epoxy on the basement floor; two small areas less than one square foot.
2. Brick dust observed on walls and pipes.
3. Some water damage around furnace.
4. Ambient Air = 0.0 ppm

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	M. Greer	**Property Address:**	17 Knowlton Street
		Monitoring Start Time:	8:33 AM
Date:	2/7/2017	**Monitoring End Time:**	08:42 AM
Weather:	Overcast, 32°F	**Option 2 or 3:**	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909771	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 100.0

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	(good) / fair / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Ambient Air = 0.0 ppm

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	J. Neff	**Property Address:**	166-168 Glen Street
		Monitoring Start Time:	11:30 AM
Date:	02/05/18	**Monitoring End Time:**	11:45 AM
Weather:	Cloudy, ~35°F	**Option 2 or 3:**	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909687	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 102.2

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	good / (fair) / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	Y / (N)

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Water staining on epoxy on chimney and floor, near furnace.
2. Repairs made by M. Sepe appear to be in good condition.
3. A tenant storage space was inaccessible - could not observe condition of epoxy/ pipe. Owner was not aware of any damage.
4. Ambient Air = 0.6 ppm.
5. Kristi Pierce indicated she is likely to sell property in summer. Contact to discuss transition.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	M. Greer	**Property Address:**	32 Knowlton Street
		Monitoring Start Time:	5:00 PM
Date:	04/04/19	**Monitoring End Time:**	5:30 PM
Weather:	Cloudy, ~40°F	**Option 2 or 3:**	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909687	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 99.5

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	(good) / fair / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Basement is partially finished with some SSDS pipes hidden behind walls. No piping is visible.
2. Exterior piping appeared in good condition.
3. Ambient Air = 0.0 ppm
4. Spoke to John Peddle, he was not aware of any damage to piping or epoxy. Stated that some of the stucco on outside walls is crumbling.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	M. Keller	**Property Address:**	11 Morton Street
		Monitoring Start Time:	10:25 AM
Date:	02/04/15	**Monitoring End Time:**	10:35 AM
Weather:	Cloudy, ~20°	**Option 2 or 3:**	(2) / 3

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	Rental	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 100.0

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	(good) / fair / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	Y / (N)

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Ambient Air = 0.0 ppm
2. On walls, minor staining and flaking of epoxy.
3. On floor, minor cracking of expoy.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	M. Greer	**Property Address:**	10 Morton Street
		Monitoring Start Time:	10:00 AM
Date:	04/04/19	**Monitoring End Time:**	10:15 AM
Weather:	Cloudy, ~40°	**Option 2 or 3:**	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909687	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm):99.4

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	good / (fair) / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Ambient Air = 0.0 ppm
2. Observed shallow cracks near stairs.
3. Observed shallow cracks along wall/ floor interface.
4. Piping in good condition.
5. Repairs made by M. Sepe in good condition.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	M. Greer	**Property Address:**	19-19A Morton Street
		Monitoring Start Time:	8:55 AM
Date:	02/07/18	**Monitoring End Time:**	9:10 AM
Weather:	Cloudy, ~30°F	**Option 2 or 3:**	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909771	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 100.0

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	good / (fair) / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Observed peeling epoxy in few locations on floor and wall, especially near stairs. Moderate cracking at wall/floor interface.
2. Exposed concrete where water heater was replaced.
3. Minor water damage near stairs, ~2 square feet. Moderate water damage at wall adjacent to Morton Street.
4. Ambient Air = 0.0 ppm.
5. Tenant indicated that there was water damage this year, and back corner has some small spots of epoxy peeling.

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Address:**	18 Morton Street
		Monitoring Start Time:	8:20 AM
Date:	04/04/19	**Monitoring End Time:**	8:45 AM
Weather:	Sunny, ~40° F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909771	100 ppm Isobutylene Time:	(Y) / N Cal. Reading (ppm): NA
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? (Y) / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	Y / (N)	System Influent Pipe	NM	0.0	
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	System Influent Pipe (Dwyer Manometer)	-0.14	0.0	
Excessive fan noise?	Y / (N)	SS1	-0.202	0.00	Near tool chest.
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor	SS2	-0.018	0.0	Near building column.
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor	AA	N/A	0.0	
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

COMMENTS:

1. No downdraft prevention cap present.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	M. Greer	**Property Address:**	27 Tufts Street
		Monitoring Start Time:	9:00 AM
Date:	04/04/19	**Monitoring End Time:**	9:15 AM
Weather:	Cloudy, ~40°F	**Option 2 or 3:**	(1)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909687	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 99.8

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	good / (fair) / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Water staining near basement stairs.
2. Exposed mesh near SSVS piping wall penetration.
3. Moderate flaking epoxy on stairs. St. Repairs made by M. Sepe appear in good condition.
4. Manometer should be installed during next site visit.
5. Ambient Air = 0.0 ppm

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Address:**	23 Tufts Street
		Monitoring Start Time:	9:15 AM
Date:	4/5/2019	**Monitoring End Time:**	9:30 AM
Weather:	Sunny, ~35° F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	ppmRAE3000	592-909771	100 ppm Isobutylene Time:	(Y) / N Cal. Reading (ppm): 99.5 ppm
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? (Y) / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	(Y) / N	System Influent Pipe	-3.35	0.0	
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	System Influent Pipe (Dwyer Manometer)	-3.535	0.0	
Excessive fan noise?	Y / (N)				
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor				
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

COMMENTS:

100% of basement floor/walls covered with dry wall and tiles, finished bedrooms.

Ambient Air= 0.0 ppm

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Address:**	13 Morton Street
		Monitoring Start Time:	9:30 AM
Date:	04/05/19	**Monitoring End Time:**	9:45 AM
Weather:	Cloudy, ~35°F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-909687	100 ppm Isobutylene Time:	(Y) / N Cal. Reading (ppm): 99.8
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? (Y) / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	(Y) / N	System Influent Pipe	-2.6	0.0	
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	System Influent Pipe (Dwyer Manometer)	-2.565	0.0	
Excessive fan noise?	Y / (N)	SS1	-1.683	0.0	Near building column
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor	AA	N/A	0.0	
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				worn concrete, likely due to water infiltration

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

COMMENTS:

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Address:**	31-33 Knowlton Street
		Monitoring Start Time:	8:00 AM
Date:	04/05/19	**Monitoring End Time:**	8:20 AM
Weather:	Cloudy, ~40°F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-909687	100 ppm Isobutylene	(Y) N Cal. Reading (ppm): 99.5
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? (Y) N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	(Y) / N	System Influent Pipe (Dwyer Manometer)	NM	0.0	Need to replace, all water evaporated
Exterior Fan Condition (housing, wires, etc)?	(good) / fair / poor	SS1	0.000	0.0	
Excessive fan noise?	Y / (N)	SS2	-0.005	0.0	
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor	Ambient Air	N/A	0.0	
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				Degraded concrete in storage room, likely due to water infiltration

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

Shut down fan, no notification.

Ran REPORT stestem off. Restarted stystem.

Ran REPORT ststem on. We are not receiving shutdown notices, but system recognized shutdown

Replaced node battery.

COMMENTS:

1. Visible water at cracks.
2. Significant shallow cracks near stairs. Worn concrete in storage area, screened with PID = 0.0 ppm.
3. Ambient Air = 0.0 ppm.

EPMM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Address:**	35-37 Knowlton Street
Date:	02/06/17	**Monitoring Start Time:**	;2:10 PM
Weather:	Sunny, ~45°F	**Monitoring End Time:**	2:30 PM

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-910009	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 100.0
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? (Y) / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	(Y) / N	Ambient Air	N/A	0.0	
Exterior Fan Condition (housing, wires, etc)?	(good) fair / poor				
Excessive fan noise?	Y / (N)				
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) fair / poor				
Exterior Pipe Condition (cracks, damage, etc.)?	(good) fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				

NOTES:

1. EPMM = Exposure Pathway Mitigation Measure.
2. ppm = parts per million.
3. PID = photoionization detector.
4. N/A = Not Applicable.
5. VOC = volatile organic compound.
6. in. H_2O = inches of water column.
7. NM = Not Measured.

COMMENTS:

1. There is no permanent manometer on the influent pipe at this residence. The previously installed sub-slab points were destroyed during the EPMM installation.
2. Observed ~1 square foot area of chipping epoxy near bulkhead door.
3. Rust spots are coming through the epoxy on the north and west walls of the basement.
4. There are some scuffs on the floor and water staining is evident on the floor near the bulkhead door.
5. Ambient Air = 0.0 ppm.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	M. Greer	**Property Address:**	12 Morton Street
		Monitoring Start Time:	8:45 AM
Date:	02/08/17	**Monitoring End Time:**	9:00 AM
Weather:	Sunny, ~30°F	**Option 2 or 3:**	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-910009	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 100.0

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	good / (fair) / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Ambient Air = 3.1 ppm
2. Some cracking and peeling epoxy near the water heater/washer and dryer area.
3. Puddle on floor.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	J. Neff	**Property Address:**	4 Morton Street
		Monitoring Start Time:	9:25 AM
Date:	02/06/18	**Monitoring End Time:**	9:40 AM
Weather:	Cloudy, ~25°F	**Option 2 or 3:**	2 / (3)

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-909687	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 99.8

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	good / (fair) / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	Y / (N)

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Minor areas of cracking/peeling epoxy on walls.
2. Significant water damage throughout epoxy on floors/ staining.
3. Removed epoxy in OK condition.
4. M. Sepe previously made repairs. Appear to be in good condition.
5. Ambient Air = 0.0 ppm.
6. Mr. Chau indicated the PVC pipe on exterior of building had lost a bracket, PVC swings during high winds.

EPMM Options 2 and 3
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION FOR PASSIVE EPMM SYSTEMS

GEI Field Representative(s):	J. Neff	**Property Address:**	95R Franklin Street
		Monitoring Start Time:	9:55 AM
Date:	02/06/18	**Monitoring End Time:**	10:05 AM
Weather:	Cloudy, ~25°F	**Option 2 or 3:**	(2) / 3

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-909687	100 ppm Isobutylene	(Y) / N Cal. Reading (ppm): 99.8

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration

Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Interior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor
Epoxy Condition (cracks, peeling, water damage, etc.)?	good / (fair) / poor
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)
Downdraft Prevention Cap Present?	(Y) / N

NOTES

1. EPMM = Exposure Pathway Mitigation Measure.
2. Option 2 = Consists of a venting system installed in a shallow trench around the interior basement floor perimeter, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
4. Option 3 = Consists of a venting system installed beneath the basement floor, a new concrete floor slab, cement stucco applied to the walls, and an epoxy vapor barrier applied to the walls and floor.
5. ppm = parts per million.
6. PID = photoionization detector.
7. VOC = volatile organic compound.

COMMENTS

1. Ambient Air = 0.0 ppm
2. Small area of peeling epoxy by the washer and dryer.
3. ~1.5 sq ft exposed near furnace, ~1 sq ft exposed concrete near paint storage.
4. MW in basement. Cracking epoxy around MW.

EPEM Option 1
Field Monitoring / Inspection Form

GENERAL MONITORING INFORMATION

GEI Field Representative(s):	M. Greer	**Address:**	103 Washington Street
		Monitoring Start Time:	9:05 PM
Date:	02/07/17	**Monitoring End Time:**	9:15 PM
Weather:	Snowy, ~32°F		

INSTRUMENTATION INFORMATION

Instrument	Manufacturer	Model	Serial No.	Calibrated To:	Successful Calibration?
PID (ppm)	RAE Systems	miniRAE3000	592-909771	100 ppm Isobutylene	Y / N Cal. Reading (ppm): NA
Manometer (in. H_2O)	Dwyer	Mark 111-475-0 Series	475-000-FM	N/A	Zeroed before each reading? Y / N

FIELD MEASUREMENTS / OBSERVATIONS

System Status/Configuration		Pressure/VOC Measurements			
		Monitoring Point	Pressure (in. H_2O)	VOC (ppm)	Location Description (e.g., distance from foundation walls)
Radon Fan On?	Y / (N)	Extraction Point in garage	NM	NM	Inside main garage building
Exterior Fan Condition (housing, wires, etc)?	good / (fair) / poor	Extraction Point in raised slab	NM	NM	Room off of rear of garage - slab is raised from main part of building
Excessive fan noise?	Y / N	SS1	NM	NM	Could not locate.
Interior Extraction Pipe Condition (cracks, damage, etc)?	(good) / fair / poor	SS2	NM	NM	Could not locate.
Exterior Pipe Condition (cracks, damage, etc.)?	(good) / fair / poor				
Leaks Around Slab Penetrations?	Y / (N)				
Slab or Wall Cracks / Openings That Impair System Performance?	Y / (N)				

NOTES:

1. ppm = parts per million.
2. PID = photoionization detector.
3. N/A = Not Applicable.
4. VOC = volatile organic compound.
5. in. H_2O = inches of water column.
6. SSDS = Sub-slab Depressurization System.

COMMENTS:

1. No measurements taken from system. System has not been running for a while. The garage operator will not run the radon fans.
2. As of 2/9/17 garage closed for business